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Extra

# BIG CREEK BASIN PROJECT

Including

Big Creek, Lick Creek, Flat Fork, Prairie Cypress Creek,  
Big Cypress Creek, Little Cypress Creek, and Crooked Creek

## MISSISSIPPI RIVER AND TRIBUTARIES



UNITED STATES DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE  
Little Rock, Arkansas





BIG CREEK BASIN PROJECT

(ARKANSAS)

MISSISSIPPI RIVER AND TRIBUTARIES PROJECT STUDY

REPORT ON

PRESENT AND ANTICIPATED AGRICULTURAL CONDITIONS

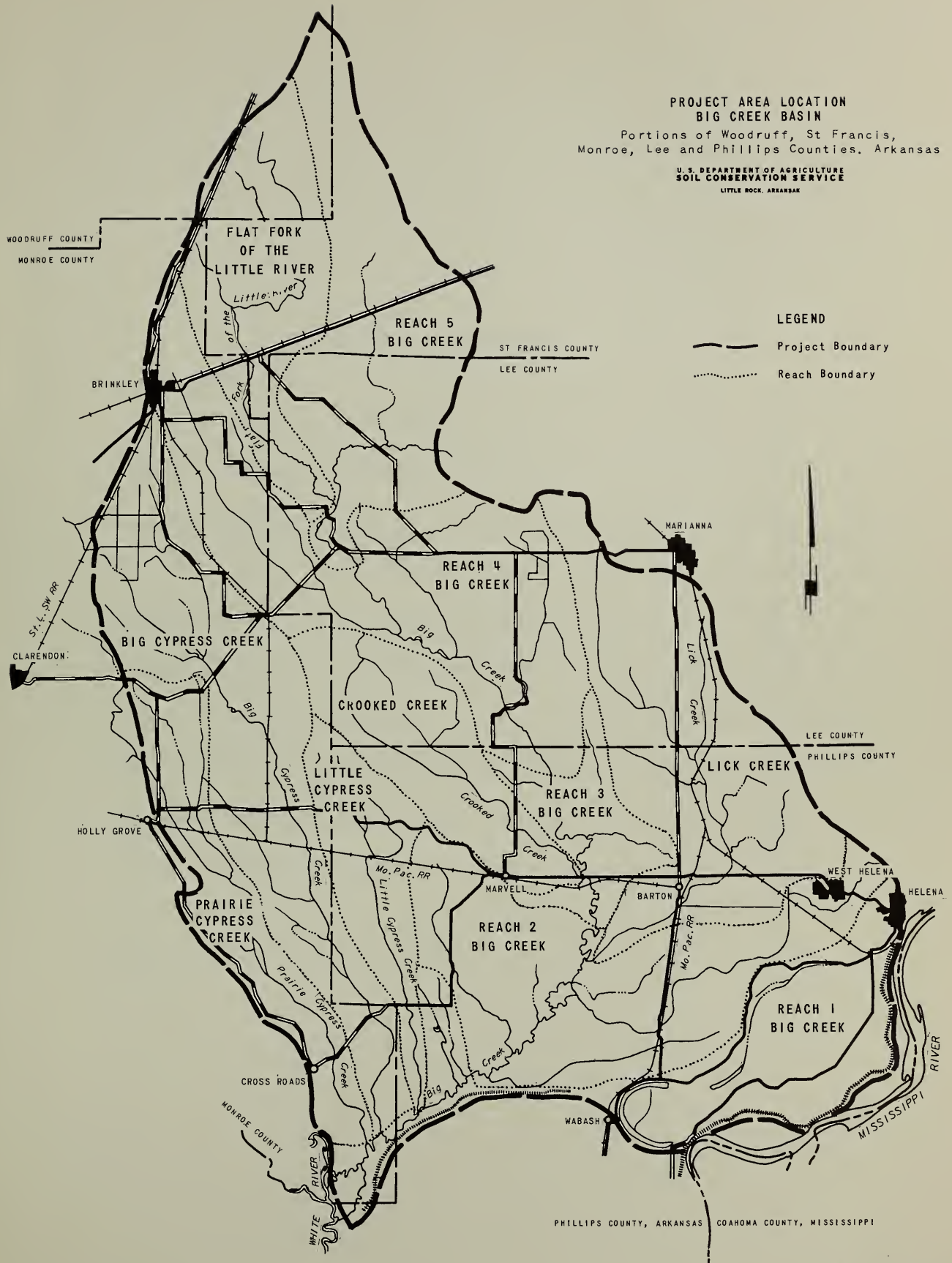
Prepared by The  
U. S. Department of Agriculture for the Mississippi River Commission

Soil Conservation Service  
Little Rock, Arkansas  
May, 1957  
Revised October, 1957



PROJECT AREA LOCATION  
BIG CREEK BASIN  
Portions of Woodruff, St Francis,  
Monroe, Lee and Phillips Counties, Arkansas

U. S. DEPARTMENT OF AGRICULTURE  
SOIL CONSERVATION SERVICE  
LITTLE ROCK, ARKANSAS





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## AUTHORITY

This report has been prepared by the Soil Conservation Service, U.S. Department of Agriculture, covering studies made under authority of Section 6, Public Law 566, 83d Congress and upon request of the Mississippi River Commission. Specific request to initiate this particular project area study was made August 22, 1956, by the District Engineer, Memphis District, Corps of Engineers, Department of the Army. The basis for study was agreed upon as set forth in the Project Study Statement dated October 18, 1956.

## AGENCY PARTICIPATION AND RESPONSIBILITIES

Material contained herein is based upon the data at hand and the combined Judgement of available agricultural technicians most familiar with the project area and its agricultural conditions and problems. Under a U. S. Department of Agriculture Memorandum of Understanding, consummated February 2, 1956, the U. S. Forest Service, the Agricultural Research Service, and the Soil Conservation Service have each participated in the study. From time to time assistance of other persons, such as representatives of the Agricultural Extension Service, State College of Agriculture and Experiment Stations, and other agencies, has been given.

The Agricultural Research Service has been responsible for developing field crop and livestock commodity price data, field crop and livestock enterprise production cost data, interest rates for capitalization, amortization and discounting, and has assisted the Soil Conservation Service in studies of field crop and pasture yields and in overall economic procedures.

All woodland yields, values and costs were developed by the Forest Service.

The Soil Conservation Service through the office of the Arkansas State Conservationist, has in general been responsible for coordinating and conducting the study and preparing this report. It has classified the soils of the area in accordance with the major soil groupings. It has estimated land use and cropping patterns, extent and cost of land use conversions, and extent and cost of farm and group drainage systems.

## METHOD OF COMPUTING AGRICULTURAL VALUES CREDITABLE TO PROJECT

Data presented in this report are intended to portray three different situations with respect to land use, cropping patterns, crop yield, etc.,- (1) the current situation, (2) the future situation without the proposed project, and (3) future conditions with the proposed project. The basis for computing agricultural benefits in this report is the difference between the second and third situation listed. The major reason for this type of calculation is that it provides a systematic means of excluding non-project influences which are expected whether a project is installed or not. Because of current land development operations and expected changes in commodity price and price-cost relationships, for example, future land use and cropping systems without the project may be quite different than present. This difference is not credited to the project,



## LIMITS OF APPLICATION OF ESTIMATES

The estimates cover an appraisal of the agricultural values and costs that can be expected as a result of agricultural drainage in association with installation of the proposed project works. However, the data includes no estimates of flood damage reduction, its values or costs, though the land use and cropping estimates reflect the flood protection that would be afforded by the proposed project works. Average flood-free yield estimates have been used throughout the study so that they can be used as a basis for calculation of flood damage reduction by the Corps of Engineers, based upon its own hydrologic studies. The Department of Agriculture, having made no hydrologic studies of its own in the area, has developed estimates on the basis of hydrologic data provided by the Corps of Engineers, including the delineation of limits of project effectiveness, and maximum overflow that established the conditions for project study. Further studies may result in revised hydrologic data that would require modification of the agricultural data contained herein.

The limits of project effectiveness established by the Corps of Engineers on the basis of engineering studies were accepted as the basis for compilation of agricultural data. All soils of such characteristics as to not require drainage have been eliminated from drainage evaluations. However, no attempt has been made by the Department of Agriculture to designate areas, within the limit of project effectiveness provided by the Corps, which because of elevation might be drained without the project and hence not properly credited as benefiting from the project. Further engineering studies by the Corps may reveal the desirability of eliminating some acreages of that type from the computations contained herein. The Department of Agriculture does not have responsibility for that phase of the study.

## DESCRIPTION OF THE PROJECT

The Big Creek Basin Project consists of Channel straightening, cleanout and enlargement of Big Creek and its major tributaries as follows:

- (1) Big Creek - from its mouth on the East bank of White River, upstream to approximately the North boundary of Section 20, Township 4 North, Range 1 East.
- (2) Prairie Cypress Creek - from its mouth on the West bank of Big Creek, upstream to approximately the South boundary of the NW $\frac{1}{4}$  of the NW $\frac{1}{4}$  of Section 5, Township 2, South, Range 1 West.
- (3) Big Cypress Creek - from its mouth on the West bank of Big Creek, upstream to approximately the Northeast corner of Section 18, Township 1 North, Range 1 West.
- (4) Little Cypress Creek - from its mouth on the West bank of Big Creek, upstream to approximately the Northwest corner of Section 16, Township 2 South, Range 1 East.



- (5) Crooked Creek - from its mouth on the West bank of Big Creek, upstream to approximately the North boundary of the Southwest  $\frac{1}{4}$  of Section 7, Township 1 South, Range 1 East.
- (6) Flat Fork Little River - from its mouth on the West bank of Big Creek, upstream to approximately midway of the South half of Section 14, Township 1 North, Range 1 West.
- (7) Lick Creek - from its mouth on the East bank of Big Creek, upstream to approximately the North boundary of Section 18, Township 1 North, Range 3 East.

The proposed project is designed to serve as a major drainage outlet for farm and group drainage systems for a total area of about 1,060 square miles in Arkansas. As established by the Corps of Engineers, an area of about 555,507 acres (Zone A) lies above the limits of overflow. An area of about 105,222 acres (Zone B) is effected by flooding that can be alleviated by project works to an extent that will improve agriculture. An area of about 17,671 acres (Zone C) is subject to backwater flooding from the White River of such frequency as to preclude further agricultural development.

This project is essentially agricultural in nature. Agricultural benefits that could accrue from the project would be almost entirely from improvement in farm and group drainage systems and associated technology. Without these associated facilities only meager agricultural benefits could accrue. The proposed Channel improvements are integral parts of farm and group drainage systems.

The project area is typical of the lowland farming area of Eastern Arkansas. General farming predominates; cotton, rice, soybeans and livestock feed crop production are the major enterprises. Although small farm operating units (less than 280 acres per unit) predominate at present, it is estimated that in the future, 50 to 90 percent (varying by reaches and sub-areas) of farmlands will be in large (more than 280 acres) units. Because of flat topography, predominance of poorly drained soils, large areas subject to flooding, and absence of satisfactory major drainage outlets, the present level of agricultural development is low.

#### SOILS

The soils of the Big Creek Basin are very complex in their age and origin, as well as their adaptability and response to cropping and management systems.

Soils of Crowley's Ridge (soil mapping unit 15S), comprising about 2 percent of the basin area, are above the zone of overflow and are in no way effected by the project. They do have a bearing on the project, however, due to the rapid rate of runoff and the associated high rate of sediment production characteristic of soils of aeolian origin. The runoff and sediment increase the costs of farm and group drainage installation and maintenance by considerable amounts in those reaches of the project study having portions of Crowley's Ridge in their headwaters.



Approximately 18 percent of the project area is composed of sandy loam and silt loam soils (soil mapping units 9S, 11, 11S, 12). These are well drained soils normally requiring no drainage improvements, either due to slope as in the case of soil mapping unit 9S or permeable structure and slightly higher elevation than surrounding wet soils, as in the case of soil mapping units 11, 11S, 12. The bottomland and low terrace soils in this group (11, 11S, 12) are presently highly productive and well developed agriculturally. The loess terrace soil included in this group (9s) is presently giving comparatively low yields; its soils can be made to produce fairly high yields through technology and management.

Sandy loams and silt loams predominate on about 57 percent of the area. They are underlain with heavy clays of alluvial origin; the surface soils are of both alluvial and aeolian origin. These soils occupy low terrace (soil mapping units 4 and 7) and terrace (soil mapping units 9 and 10) positions; those of the latter group occur on the loess terrace and are particularly adapted to rice culture. These soils are poorly to moderately well drained and consequently fairly highly developed agriculturally and have moderately high present production levels. However, these soils will respond to drainage improvements; soils in this group, particularly soil mapping unit 4, have the highest production levels in the area when drained and properly managed. These soils are confined to intermediate elevations of the basin area.

About 18 percent of the project area is composed of poorly drained silt loam bottomland soils (soil mapping units 6 and 8). These soils are similar, in most respects, to the bottomland clays except they have a somewhat higher productivity-potential.

The remainder of the project area, comprising approximately 5 percent of the total, is of poorly drained bottomland clay soils (soil mapping units 1 and 2). These soils are poorly to moderately well developed for agricultural production at present, depending on location and adjacent soil mapping units, but constitute some of the highest production increments from drainage improvement. Because of the flat to depressed topography, during periods of excessive rainfall - usually several times each cropping season - surface flooding and waterlogging conditions prevail unless intensive farm and group drainage systems have been provided. The soils are inherently productive and high yields of adapted crops can be regularly obtained when surface water accumulations are rapidly removed.

#### LAND USE

About 61 percent of the project area is open land, 38 percent is wooded, .5 percent is urban area and .5 percent is watered. There is a much higher percentage of woodland on soil mapping units 1, 2, 6, 8 and 10 than on the better drained soils in the basin.

There is a present trend toward conversion of some woodland to crop and pasture use on all soil units. However, present trends are influenced by current prices of agricultural commodities and upon the usual optimism following a period of several relatively dry years when drainage needs have been minor. Without drainage improvements, relatively minor land use changes



can be anticipated on wet soils. With drainage, however, large scale conversions can be expected.

Woodland use varies considerably according to ownership, location, accessibility and general drainage or overflow conditions. Only 3,670 acres, or about 1.7 percent of the woodland area is definitely reserved for forest production or wildlife uses. In addition about 15 percent of the woodland is being leased out for hunting or hunting privileges are sold on a day to day basis. These woodlands are generally in better condition and better managed than the average. Some farm woodlands, particularly in the pine belt in Prairie Cypress and Big Cypress Reaches, are held for timber production even though management is not very intensive. Other woodlands forming part of the farm unit are in the lowest areas and provide sumps and outlets for farm drainage. These woods provide firewood and winter work for farm tenants who produce sawlogs, chemical wood, and a little pulpwood. Very little management is applied. Usually the best growing stock is cut for firewood. For other products, if a tree is big enough and good enough, it is cut regardless of whether maximum growth or value has been attained. As a result, most of the forested area is in poor condition with the better grade material cut out and a third to half of the area occupied by cull trees. Poorest grade and lowest yield on the average is found in the tributaries and highest yield values on the main stem. The woodlands in the main stem reaches are not as typically farm woodland, are generally in larger blocks, are more inaccessible with less fire damage and have better second growth species and volumes. The only evidence of extensive recent conversion was found in Reach 5 and to a lesser extent in Reach 4 and Flat Fork. In Reach 5, out of an original grid of 15 forest sampling points, 9 points fell on cleared land. In Reach 4 and Flat Fork the ratio was 2 out of 16. These clearings were all for rice production. Big Cypress, Zone A, Reach 2, Zones A and B and Reach 1, Zone B are cut out for all practical purposes and a 10 year time lag is estimated before a continuation of yields can be expected. In other reaches and zones, annual harvests are taking place but at a much lower level than the potential productive capacity of the area. Reach 5, which has most of the recent land conversion, also has a high forest yield potential and one of the highest present worths in the project area.

#### CROPPING PATTERNS

Cropping patterns on open land vary chiefly with the soil mapping unit and with drainage improvement of the wetland soils. Much of the cropland in Zone B is along the upper limits of overflow where frequency, depth and duration are not great enough to seriously affect cropping.

Cotton, rice, soybeans, corn, oats, grain sorghum and pasture represent the major open land crops upon which this project analysis is based. Without drainage improvement, only small changes in major cropping is anticipated. However, with drainage improvement, relatively large conversions of woodland are expected to occur, and more intensive cropping is anticipated with an increased acreage of cotton on most soils, and other crops on soils to which they are particularly adapted, as in the case of rice on soil mapping unit 10. Since the data for Zone B



include some undrained acreages as well as drained acreage, the cropping shown on Tables II B, III B and IV B represents the weighted estimates for drained and undrained conditions.

### YIELDS

Field crop and pasture yields are estimates of yields that are currently being attained or that can be expected to be attained by average producers, using a reasonable level of management, under future conditions, with and without drainage. All yields, in all project zones, are for average flood-free years. Within Zone B, under present, future without project, and future with project conditions, there are varying percentages of total acreage that are or would be drained. These percentages were used in computing weighted yields for Table II B, III B, and IV B for each crop.

Computations for Zone A are only for net acreages to be drained, and since none of the acreage in Zone C will be drained, weighting was unnecessary in these two zones.

Woodland yields are based upon sampling studies conducted in the area by the U. S. Forest Service. Woodland yields are based on average growth rates applicable to the species and stand size and ages found in the area. The yields represent the units of wood products and value that will be attained on the average for the next 50 years under the level of management that can be expected to prevail based on present findings in the project area. Board foot and cubic foot units of production of wood products per acre are not shown in Tables II and III due to complexity of computations. For simplicity, the yield for Table III has been consolidated into a per acre value of production discounted to present worth. Unit yields of wood products used in the consolidation are available in the working papers.

### PRICES

Woodland production values, as used in Table III, are based on 1955 prices for woodland products F.O.B. mill or siding. 1955 prices are used since they appear to be realistic price projections for future conditions. The production values shown for the future without project conditions have been discounted to present worth in connection with increments in production and value due to application of high level management practices and any time lags in availability of products for harvest.

Projected field crop and livestock prices used in this report were developed jointly by the Agricultural Research Service and the Agricultural Marketing Service. Projected prices have been used, based on most likely long range expectations, and estimates of cropping patterns have been influenced by the assumption that such prices will prevail. Projected prices were developed from studies of the prospective conditions of product supplies and requirements. In order to remove the effects of price support programs and in order to reflect the economy of production in competing areas, the projections assume the eventual attainment of a relatively free market for agricultural products.



In evaluating the long-run aspects of deferred land development and improvement projects, the use of projected prices makes it unnecessary to restrict the acreage of "control" crops in crop income computations.

Crop acreages shown for future conditions are not compatible with a projection of current prices into the future, however. Neither do they seem to portray attainable goals for restricted crops during the surplus disposal period in the immediate years ahead. Therefore, if current prices were to be used in projection of future project conditions, or for projects where early construction is contemplated, there would appear to be little or no justification for increasing the acreage of surplus or "control" crops (cotton and rice) over current allotment acreages.

#### CROP PRODUCTION COSTS

Production costs for forest products are based on costs prevailing in and adjacent to the project locality during 1955. These costs are estimated to be at a reasonable level for projection to future conditions. Production costs have been discounted to present worth in the same manner as production values. Costs cover conversion of standing timber to raw wood products at mill or rail siding, including a return to management, and a cultural and crop management cost consisting of an amortized annual charge for timber stand improvement work; an allowance for management and supervision by owners, their representatives, and foresters, and forest protection.

Production costs for all field crop and livestock enterprises were developed from a study of large and small Mississippi River bottomland farms. Because production costs by enterprises are not the same for large as for small farms, these costs were weighted in accordance with the proportionate acreage of land in large and small farms expected to exist in the project area under future conditions. In some project areas within the same reach it will be noted that there is a difference in production cost for the same crop at the same yield level between the future without project and future with project conditions. This is because the percentage of land expected to be in large farms without the project is different from the percentage of land expected to be in large farms with the project. Production costs, as used for project evaluation purposes, include all operational costs required to attain yield levels indicated in project cost tables (such as allowances for all labor, power, machinery, and materials required to produce and market the product), all farm overhead costs necessary in farm operation (except a charge for land), and an allowance for management expense which includes an estimated amount required for the operator's management and for any employed management personnel or services.

Land charges were omitted from the cost analysis because net returns to land were being determined for conditions with and without the project features. Overhead costs include such items as a charge for buildings, maintenance and replacement of farm machinery, interest on investment,



insurance, and personal property taxes. Specified production costs are all costs incurred in production and marketing of the crop or livestock. These specified costs do not include overhead and management charges. Overhead and management costs were allocated to each enterprise in proportion to the specified costs of production expended on the enterprise. Some production costs were treated as variables with yield levels attained (most harvest costs, fertilizer, poisoning, etc.) while other costs were assumed to be fixed regardless of yield (soil preparation, cultivation, and a portion of machine-picking cost). Preharvest, harvest, overhead and management costs were computed separately to derive total crop production costs.

Production costs used for projections are approximately 96 percent of the 1955 level of costs incurred by farmers.

Crop yield - production cost relationships are not the same for summary tables (all soils) as for the individual soils tables from which the summary tables are constructed. A small portion of this difference is statistical in nature (statistical error due to rounding to commonly used units) and can be ignored. The major difference, however, is due to the computing of both yields and production costs in the summary tables where total production and total cost of each crop for all soils is divided by the total acreage of that crop. If all costs bore a direct (straight-line) relationship to yield, these differences, except for statistical error, would not occur. Because this situation does not exist, an entirely accurate production cost for a given yield in the summary tables cannot be read from the standard cost tables that were developed. To get entirely accurate detailed costs (preharvest, harvest, overhead and management) in the summary tables that would be comparable to the costs used in the individual soil unit tables, it would be necessary to weight each of the components of total cost with the same acreage used in the individual soil unit tables.

The difference between the computed costs used in the summary tables for a given yield and the unweighted costs (standard cost tables) is not expected to exceed 10 percent on any given component of total cost - spot checks of actual data have not exceeded five percent. Therefore, unless greater accuracy is desired than that provided by summary tables, it will not be necessary to weight detailed cost data for flood damage analysis purposes if standard detailed cost tables are used in determining such costs.

In those cases where supplemental irrigation is involved (on crops other than rice which is an irrigated crop), irrigation costs are computed separately and added to standard production costs. These irrigation costs consist of pre-harvest and overhead charges. They have been added to standard nonirrigated production costs in proportion to acres irrigated in all tables where supplemental irrigation is involved.

#### NET CROP PRODUCTION RETURNS

The analysis of crop production by soil units, upon which the summary tables are based, generally indicate the gross value of production



to be greater than production costs. For the future conditions without the project, however, production costs of some crops on some of the soil units are higher than gross value of the crop. A correction has been made in the summary tables to remove the effect of these negative net returns where they occur. In making the correction, the actual returns for the negative net returns was assumed to be zero. In the long-run, shifts in land use may be expected that would largely avoid the losses incurred with the cropping system shown. By indicating a net income of zero for crops having a negative net return, the net error involved is negligible, and well within the limits of error in basic information used in project area analysis. Higher yields, as expected, show larger net returns to land than lower yields for the same enterprise.

The basic principle involved in this analysis is that project justification should not be dependent upon negative values and, therefore, that the total net returns shown for future project conditions places a ceiling on project benefits. Inasmuch as this analysis assumes flood-free years, consideration has not been given to the effect of flood damage on average annual net income. Consideration of the relation of this production and income analysis to flood damage analysis can be given only after flood losses have been estimated.

#### LAND USE CONVERSIONS AND COSTS

Table VI shows the land use conversions that are anticipated from the influence of the Big Creek Basin Project and development of the associated farm and group drainage systems. Table VI also contains the costs of making all woodland conversions (present level). Rather large conversions of woodland to general cultivated crops (dry land), irrigated crop (rice) and pasture use can be expected with provision of a major drainage outlet and associated farm and group drainage systems. It is estimated that these conversions will all be profitable enough to be desirable from the standpoint of the owner and operator. If the operator secures the inducement of a reasonable income over and above his loss of present woodland value and his land use conversion and drainage costs, he will probably go ahead with land conversions rather than wait for a long period of years for deferred woodland income.

Items of conversion cost include all expense of putting woodland from its present state into condition to produce a crop or livestock enterprise, with only normal production costs remaining to be incurred. This statement excepts considerable acreages of irrigation which will also be expected with drainage installation. Costs of installation and maintenance of irrigation systems are included in costs of production. Also included in costs of production are costs of establishing and maintaining pasture on converted woodlands or present open land.

All capital costs of woodland conversions have been amortized at 5 percent for a period of 50 years.

#### FARM DRAINAGE SYSTEMS AND COSTS

Table VII contains estimates of amounts and costs of farm drainage



systems that can be expected after a satisfactory major outlet and connecting group drainage system is developed. These estimates anticipate that approximately 70 percent of the wet land will be drained and used for crop production. Approximately 10 percent of the open land is used for farmsteads, roads, waste, etc. and hence is not available for crop use. An additional area, estimated at 20 percent of the total wet land, will not be improved because of lack of farmer participation.

Costs, computed at present levels, include the installation (construction, engineering and contingency) costs required for farm drainage systems for satisfactorily rapid removal of surface water accumulations that are likely to occur for the various conditions of rainfall and runoff involved. Requirements vary by soil mapping units and by land use. Costs include all ditching and appurtenant structural needs for systems to serve an average of one square mile. Estimates are based on standard design data for conditions involved.

Farm drainage system capital costs have been amortized for a useful life period of 10 years at 5 percent. Field experience in farm drainage work indicates that a 10 year useful life period is realistic in view of changes in ownership, changes in cropping patterns, etc.. Maintenance costs, varying with the soil mapping unit and the land use, have been added to the amortized annual equivalent of installation cost to derive the annual cost of farm drainage systems.

All farm drainage costs have been discounted on Table IX at 5 percent to account for an estimated 25 year lag to full installation, maintenance, and benefit accrual, except in Prairie Cypress Creek, Little Cypress Creek and Reach 3 of Big Creek, where a 20 year lag is anticipated, due to the relatively small amount of group drainage installations needed to serve the farm drainage systems.

Although land near existing adequate outlets can be drained, considerable areas will have to wait on farm drainage until group drainage facilities are installed.

#### GROUP DRAINAGE SYSTEMS AND COSTS

The area that would be served by the Big Creek Basin Project requires a large amount of group drainage system installation to serve as intermediate drainage to connect farm systems with the major outlets. In all, approximately 810 miles of ditches with appurtenant structures are needed to serve the farm drainage systems that are anticipated to be installed.

Table VIII itemizes the costs required to install and maintain the group drainage and appurtenant structures. Installation costs have been amortized for a useful life period of 20 years at  $3\frac{1}{2}$  percent. Field experience in group drainage work indicates that a 20 year useful life period is realistic in view of changing land use patterns, sedimentation problems, etc.. Maintenance costs have been added to this amount to derive the total annual cost of group drainage systems.



Group drainage costs have been discounted on Table IX at  $3\frac{1}{2}$  percent to account for an estimated 15 year lag to full installation, maintenance, and benefit accrual, except in Prairie Cypress Creek, Little Cypress Creek, and Reach 3 of Big Creek, where a 10 year lag is anticipated to allow adequate time for installation, due to the relatively small amount of group drainage installations required.

#### BENEFITS AND ASSOCIATED COSTS

Table IX summarizes net annual returns from Tables III and IV for Zones A and B, annual costs of making land conversions (from Table VI), and establishing and maintaining farm and group drainage systems (Tables VII and VIII).

Returns and gross benefit, and all associated cost items, have been discounted in Column 3, Table IX, to account for an estimated lag and buildup period to full installation and maintenance requirements, and benefit accrual.

#### SUMMARY

The Big Creek Basin Project is, except for a part of Reaches 1 and 2 of Big Creek, a poorly developed agricultural area, principally because of inadequate drainage throughout the basin. With the proposed project installed, extensive agricultural development can be expected, but economic soundness of such development and satisfactorily high level production can be assured only with large amounts of associated group and farm drainage. The major outlets, group ditches and farm systems need to be integral parts of a single system for removing surface water accumulations; this is the major function of the proposed facility.

Yields for average flood-free years have been used throughout this report. The Corps of Engineers, therefore, may need to modify the future without project values to account for flood damage. They may also need to modify future with project values to account for less than complete flood protection under project conditions.

# BASIN SUMMARY BY REACHES

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Reach	Acres	Gross	Cost	Net	Gross	Cost	Net	Difference In Net Value
		Future Without Project (Value of Production in Dollars)			Future With Project (Value of Production in Dollars)			
Big Creek								
Reach 1	: 20,428	: 698,701	: 561,695	: 140,120 <u>1/</u>	: 1,909,293	: 1,546,788	: 362,505	: 222,385 <u>1/</u>
Reach 2	: 42,285	: 2,194,816	: 1,742,893	: 452,255 <u>1/</u>	: 4,750,190	: 3,875,755	: 874,435	: 422,180 <u>1/</u>
Reach 3	: 8,300	: 402,923	: 319,770	: 83,153	: 707,485	: 554,309	: 153,176	: 70,023
Reach 4	: 61,857	: 2,797,861	: 2,253,154	: 544,707	: 6,137,828	: 5,141,877	: 995,951	: 451,244
Reach 5	: 39,311	: 1,427,741	: 1,146,904	: 280,837	: 3,269,848	: 2,630,682	: 639,166	: 358,329
Prairie Cypress	: 27,073	: 1,524,254	: 1,254,534	: 270,105 <u>1/</u>	: 3,824,815	: 3,114,097	: 710,718	: 440,613 <u>1/</u>
Big Cypress	: 48,348	: 2,151,018	: 1,742,988	: 408,030	: 6,015,670	: 4,935,650	: 1,080,020	: 671,990
Little Cypress	: 14,443	: 574,193	: 426,402	: 147,791	: 1,516,043	: 1,179,056	: 336,987	: 189,196
Crooked Creek	: 26,203	: 1,219,070	: 1,019,702	: 200,446 <u>1/</u>	: 2,523,601	: 2,076,567	: 447,034	: 246,588 <u>1/</u>
Flat Fork	: 28,113	: 1,056,426	: 872,223	: 184,203	: 2,410,156	: 1,943,844	: 466,312	: 282,109
Lick Creek	: 34,408	: 1,972,096	: 1,588,349	: 383,747	: 3,613,296	: 3,026,320	: 586,976	: 203,229
TOTAL	: 350,769 <u>2/</u>	: 16,019,099	: 12,928,614	: 3,095,394	: 36,678,225	: 30,024,945	: 6,653,280	: 3,557,886

1/ Adjusted to eliminate negative net return

2/ Total area reduced by 3,371 acres urban, 2,078 acres watered, 2,837 acres dedicated woodland, and 319,345 acres already drained, not requiring drainage, or not anticipated to be cleared.



Basin: Big Creek  
 Reach: 1, Big Creek  
 State: Arkansas

TABLE I  
 PRESENT LAND USE

Zone	:Soil map- ping unit:	: Open (Acres):	:Wooded (Acres):	: Urban (Acres):	:Watered (Acres):	:Total (Acres)
Zone A	: 1	:11,630	: 7,556	: -	: -	:19,186
	: 2	: 2,698	: 353	: -	: -	: 3,051
	: 4	: 5,030	: 845	: -	: -	: 5,875
	: 6	: 3,402	: 2,852	: -	: -	: 6,254
	: 9	: 208	: 103	: -	: -	: 311
	: 9S	: 1,707	: 200	: -	: -	: 1,907
	: 11	:10,175	: 3,013	: -	: -	:13,188
	: 12	: 1,160	: 10	: -	: -	: 1,170
	: 15S	: 1,415	: 764	: -	: -	: 2,179
Subtotal - all soils		:37,425	: 15,696	: -	: -	:53,121
Urban		: -	: -	: 460	: -	: 460
Watered		: -	: -	: -	: 951	: 951
Total - Zone A		:37,425	: 15,696	: 460	: 951	:54,532
Zone B	: 2	: 168	: 654	: -	: -	: 822
	: 4	: 232	: 532	: -	: -	: 764
	: 11	: 560	: 28	: -	: -	: 588
Subtotal - all soils		: 960	: 1,214	: -	: -	: 2,174
Urban		: -	: -	: -	: -	: -
Watered		: -	: -	: -	: -	: -
Total - Zone B		: 960	: 1,214	: -	: -	: 2,174
Zone C	: 1	: 80	: 5,502	: -	: -	: 5,582
	: 4	: 88	: 131	: -	: -	: 219
	: 6	: 168	: 3,336	: -	: -	: 3,504
	: 11SU	: 112	: 121	: -	: -	: 233
Subtotal - all soils		: 448	: 9,090	: -	: -	: 9,538
Urban		: -	: -	: -	: -	: -
Watered		: -	: -	: -	: 313	: 313
Total - Zone C		: 448	: 9,090	: -	: 313	: 9,851
GRAND TOTAL - Reach 1		:38,833	: 26,000	: 460	: 1,264	:66,557

Basin: Big Creek

Reach: 1, Big Creek

State: Arkansas

SUMMARY - TABLE II A  
ZONE FOR DRAINAGE CALCULATIONS ONLY  
COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil	Land use and crop	2/	Production		
Unit	distribution	Acres	Unit	Per Acre	Total
All	Open land	19,673			
	Crops	17,705		3/	
	Cotton	8,040	Lbs. Lint	274	2,203,035
	Cottonseed	(8,040)	Ton	.2466	1,982.72
	Corn	616	Bu.	23	14,364
	Soybeans	2,442	Bu.	17	41,177
	Oats (Grain)	3,054	Bu.	19	58,838
	Oats (Sup. Past.)	(125)	Lbs. Beef	70	8,750
	Grain Sorghum	983	Bu.	17	16,742
	Perm. Pasture	1,513	Lbs. Beef	155	233,805
	Idle	1,057			
	Other 1/	1,968			
	Woodland	11,709	Acres		
	TOTAL	31,382 4/			

1/ Farmsteads, farm roads, waste and non-agricultural

2/ Parenthetical amounts are duplicated acreages

3/ Calculated from Columns 3 and 6; rounded to nearest unit

4/ Total area Zone A reduced by 460 acres urban, 951 acres watered, and 21,739 acres of lands already drained or not requiring drainage.



Basin: Big Creek  
 Reach: 1, Big Creek  
 State: Arkansas

SUMMARY - TABLE III A  
 ZONE FOR DRAINAGE CALCULATIONS ONLY  
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION, PRODUCTION COSTS  
 AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT  
 (Based on projected prices)

(1) Soil Unit	(2) Land use and crop distribution	(3) Acres	(4) Production Unit	(5) Per Acre	(6) Total	(7) Value of production: Per Unit	(8) Total	(9) Cost of production: Per Acre	(10) Total	(11) Net Return
ALL	Open land	10,196								
	Crops	9,177								
	Cotton	3,979	Lbs. lint	297 3/4	1,180,960	.25	295,240	84.48	336,151	26,049 5/6
	Cottonseed	(3,979)	Ton	.2671	1,062.86	63.00	66,960	23.38	8,766	3,614
	Corn	375	Bu.	23	8,538	1.45	12,380	25.98	33,102	26,223
	Soybeans	1,274	Bu.	20	25,794	2.30	59,325	14.82	25,472	5,696
	Oats (Grain)	1,719	Bu.	20	34,631	.90	31,168	9.13	758	989
	Oats (Sup. Past.)	(83)	Lbs. Beef	105	8,715	2.005	1,747	18.20	9,684	5,499
	Grain Sorghum	532	Bu.	19	9,924	1.53	15,183	23.60	16,871	7,298
	Perm. Pasture	715	Lbs. Beef	169	120,545	2.005	24,169			
	Idle	583								
	Other 1/	1,019								
	Woodland	6,865	Acres			9.56	65,630	4.98	34,188	31,442
	TOTAL	17,061 7/8					571,802		464,992	106,810 5/6

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages.
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent.
- 5/ Includes calculated negative net return.
- 6/ Adjusted to eliminate negative net return.
- 7/ Total area Zone A reduced by 460 acres urban, 951 acres watered, 31,216 acres of lands already drained or not requiring drainage and 4,844 acres woodland not anticipated to be cleared.

Basin: Big Creek  
 Reach: 1, Big Creek  
 State: Arkansas

SUMMARY - TABLE IV A  
 ZONE FOR DRAINAGE CALCULATIONS ONLY  
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION  
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT  
 (Based on projected prices)

(1) Soil Unit	(2) Land use and crop distribution	(3) Acres	(4) Unit	(5) Production Per Acre	(6) Total	(7) Value of production Per Unit	(8) Total	(9) Cost of production Per Acre	(10) Total	(11) Return
ALL	Open Land	17,061								
	Crops	15,355		3/						
	Cotton	7,436	Lbs. Lint	576	4,281,550	.25	1,070,386	154.22	1,146,746	166,404
	Cottonseed	(7,436)	Ton	.5182	3,853,440	63.00	242,764			
	Corn	604	Bu.	40	24,228	1.45	35,131			
	Soybeans	1,915	Bu.	25	47,880	2.30	110,124			
	Oats (Grain)	2,276	Bu.	43	98,151	.90	88,336			
	Oats (Sup. Past.)	(718)	Lbs. Beef	123	88,105	.2005	17,665			
	Grain Sorghum	880	Bu.	24	21,262	1.53	32,530			
	Perm. Pasture	1,476	Lbs. Beef	312	461,140	.2005	92,459			
	Idle	768								
	Other 1/	1,706								
	Woodland	-	Acres							
	TOTAL	17,061 5/					1,689,395		1,373,713	315,682

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 4; rounded to nearest cent
- 5/ Total area Zone A reduced by 460 acres urban, 951 acres watered, 31,216 acres of lands already drained or not requiring drainage and 4,844 acres woodland not anticipated to be cleared.



Basin: Big Creek  
 Reach: 1, Big Creek  
 State: Arkansas

SUMMARY - TABLE II B  
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS  
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil	Land use and crop	2/	Production		
Unit	distribution	Acres	Unit	Per Acre	Total
:	:	:	:	:	:
All	Open land	: 960	:	:	:
:	Crops	: 864	:	3/	:
:	Cotton	: 432	:Lbs.Lint:	356	:153,825
:	Cottonseed	: (432)	: Ton	: .3205	: 138.44
:	Corn	: 70	: Bu.	: 37	: 2,600
:	Soybeans	: 153	: Bu.	: 20	: 3,026
:	Oats (Grain)	: 166	: Bu.	: 29	: 4,790
:	Idle	: 43	:	:	:
:	Other 1/	: 96	:	:	:
:	Woodland	:1,214	: Acres	:	:
:	TOTAL	:2,174	:	:	:
:	:	:	:	:	:

1/ Farmsteads, farm roads, waste and non-agricultural

2/ Parenthetical amounts are duplicated acreages

3/ Calculated from Columns 3 and 6; rounded to nearest unit.

Basin: Big Creek  
 Reach: 1, Big Creek  
 State: Arkansas

SUMMARY - TABLE III B  
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS  
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION,  
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT  
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil Unit	Land use and crop distribution	Acres	Unit	Production Per Acre	Total	Value of production Per Unit	Total	Cost of production Per Acre	Total	Net Return
All	Open land	984								
	Crops	886								
	Cotton	468								
	Cottonseed	(468)	lbs. lint	512	239,445	.25	59,861	135.91	63,606	9,832
	Soybeans	172	Ton	29	4,982	63.00	13,577			
	Oats (Grain)	183	Bu.	42	7,611	2.30	11,458	33.04	5,683	5,775
	Grain Sorghum	19	Bu.	26	499	.90	6,850	25.46	4,659	2,191
	Idle	44				1.53	764	22.89	435	329
	Other	98								
	Woodland	872	Acres			11.77	10,263	7.37	6,427	3,836
	TOTAL	1,856	5/				102,773		80,810	21,963

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Total area Zone B reduced by 318 acres woodland not anticipated to be cleared.



Basin: Big Creek  
 Reach: 1, Big Creek  
 State: Arkansas

SUMMARY - TABLE IV B  
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS  
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION,  
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT  
 (Based on projected prices)

(1) Soil Unit	(2) Land use and crop distribution	(3) Acres	(4) Unit	(5) Production Per Acre	(6) Total	(7) Value of production Per Unit	(8) Total	(9) Cost of production Per Acre	(10) Total	(11) Net Return
ALL	Open land	1,856								
	Crops	1,671		3/				4/		
	Cotton	860	Lbs./Acre	593	509,870	.25	127,467	156.83	134,876	21,500
	Cottonseed	(860)	Ton	.5336	458.88	63.00	28,909			
	Corn	59	Bu.	54	3,213	1.45	4,659	45.80	2,702	1,957
	Soybeans	309	Bu.	28	8,799	2.30	20,238	32.57	10,064	10,174
	Oats (Grain)	301	Bu.	45	13,450	.90	12,105	27.17	8,178	3,927
	Grain Sorghum	59	Bu.	27	1,565	1.53	2,394	23.08	1,362	1,032
	Idle	83								
	Other	185								
	Woodland		Acres							
	TOTAL	1,856					195,772		157,182	38,590

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Total area Zone B reduced by 316 acres woodlands not anticipated to be cleared.

Basin: Big Creek  
 Reach: 1, Big Creek  
 State: Arkansas

SUMMARY - TABLE II C  
 ZONE OF NO PROJECT BENEFIT  
 COMPUTATION OF AGRICULTURAL PRODUCTION  
EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil	Land use and crop		Production		
Unit	distribution	Acres	Unit	Per Acre	Total
All	Open land	448			
	Crops	403		2/	
	Corn	102	Bu.	21	2,126
	Soybeans	101	Bu.	15	1,539
	Grain Sorghum	15	Bu.	18	270
	Idle	185			
	Other 1/	45			
	Woodland	1,063	Acres		
	TOTAL	1,511 3/			

1/ Farm roads, waste and non-agricultural

2/ Calculated from Columns 3 and 6; rounded to nearest unit

3/ Total area Zone C reduced by 313 acres watered area and 8,027 acres woodland not anticipated to be cleared.



Basin: Big Creek  
 Reach: 1, Big Creek  
 State: Arkansas

SUMMARY - TABLE III C 1/  
 ZONE OF NO PROJECT BENEFIT  
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION,  
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT  
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop		Unit	Production	Value of production	Cost of production	Net			
Unit	distribution	Acres		Per Acre	Total	Per Unit	Total	Per Acre	Total	Return
ALL	Open land	1,511				Dollars	Dollars	Dollars	Dollars	Dollars
	Crops	1,360								
	Corn	340	Bu.	20 <u>3/</u>	6,732	1.45	9,761	20.72 <u>4/</u>	7,045	2,716
	Soybeans	340	Bu.	16	5,475	2.30	12,592	22.72	7,724	4,868
	Grain Sorghum	61	Bu.	19	1,159	1.53	1,773	18.43	1,124	649
	Idle	619								
	Other <u>2/</u>	151								
	Woodland	-	Acres							
	TOTAL	1,511 <u>5/</u>					24,126		15,893	8,233

- 1/ Data same for "With Project" and "Without Project" conditions. No Table IV C required.  
 2/ Farm roads, waste and non-agricultural  
 3/ Calculated from Columns 3 and 6; rounded to nearest unit  
 4/ Calculated from Columns 3 and 10; rounded to nearest cent.  
 5/ Total area Zone C reduced by 313 acres watered and 8,027 acres woodland not anticipated to be cleared.

Basin: Big Creek  
 Reach: 1, Big Creek  
 State: Arkansas

TABLE V  
 REACH SUMMARY BY SOIL MAPPING UNITS

(1) Soil Mapping Unit	(2) Acres	(3) Future Production (Production in Dollars)	(4) Cost	(5) Net	(6) Future With Project (Production in Dollars)	(7) Cost	(8) Net	(9) Difference in Net Production
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ZONE A - (not subject to flooding)

1	10,257	253,904	217,719	39,299	961,969	806,613	155,356	116,057
2	1,169	73,386	57,253	16,133	119,900	93,015	26,885	10,752
4	2,633	183,135	141,149	41,986	304,543	235,637	68,906	26,920
6	3,002	61,377	48,871	12,506	302,983	238,448	64,535	52,029
Subtotal	17,061	571,802	464,992	109,924	1,689,395	1,373,713	315,682	205,758

ZONES B & C (subject to flooding)

1	731	8,783	6,381	2,402	8,783	6,381	2,402	0
2	662	19,258	14,098	5,160	66,397	53,566	12,831	7,671
4	634	25,168	18,737	6,431	67,630	53,259	14,371	7,940
6	668	11,733	7,560	4,173	11,733	7,560	4,173	0
11	560	58,347	47,975	10,372	61,745	50,357	11,388	1,016
11SU	112	3,610	1,952	1,658	3,610	1,952	1,658	0
Subtotal	3,367	126,899	96,703	30,196	219,898	173,075	46,823	16,627
TOTAL	20,428	698,701	561,695	140,120	1,909,293	1,546,788	362,505	222,385

- 1/ Adjusted to eliminate negative net return  
 2/ Total area Zone A reduced by 460 acres urban, 951 acres watered, 31,216 acres already drained or not requiring drainage, and 4,844 acres woodland not anticipated to be cleared.  
 3/ Total area Zones B & C reduced by 313 acres watered and 8,345 acres woodland not anticipated to be cleared.



Basin: Big Creek  
 Reach: 1, Big Creek  
 State: Arkansas

TABLE VI  
 LAND CONVERSIONS WITH PROJECT

(1)	(2)	(3)	(4)	(5)
Type of Conversion <u>1/</u>	Total Amount	Cost of Clearing	Cost of Smoothing	Total Cost
	Acres	Dollars	Dollars	Dollars
Per Acre				
W to GC	xx	60	10	xx
W to IC	xx	-	-	xx
W to P	xx	60	xx	xx
P to GC	xx	xx	-	xx
P to IC	xx	xx	-	xx
GC to IC	xx	xx	xx	xx
GC to P	xx	xx	xx	xx
Project				
W to GC	6,976	418,560	69,760	488,320
W to IC	-	-	-	-
W to P	761	45,660	xx	45,660
P to GC	-	xx	-	-
P to IC	-	xx	-	-
GC to IC	-	xx	xx	-
GC to P	-	xx	xx	-
Total project	xx	464,220	69,760	533,980
Annual amortized value <u>2/</u>	xx	xx	xx	29,251
Total annual cost of conversions	xx	xx	xx	29,251

1/ W-woodland; GC-general dry-farmed crops; IC-irrigated crops; (rice); P-pasture

2/ Amortized over 50 years at 5 percent

Basin: Big Creek  
 Reach: 1, Big Creek  
 State: Arkansas

TABLE VII  
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

Zone	Soil mapping unit and land use	Area Acres	Total Cost Installation <sup>1/</sup>	Annual Equivalent Instl. Cost <sup>2/</sup>	Annual Maintenance Cost	Total Annual Cost
		Dollars	Dollars	Dollars	Dollars	Dollars
A	1 - General crops	8,123	140,552	18,201	16,218	34,419
	1 - Pasture	1,108	10,313	1,336	238	1,574
	2 - General crops	1,052	15,782	2,044	1,821	3,865
	4 - General crops	2,299	30,575	3,959	3,528	7,487
	4 - Pasture	71	577	75	13	88
	6 - General crops	2,405	33,798	4,377	5,200	9,577
	6 - Pasture	297	4,174	541	321	862
	Subtotal	15,355 <sup>3/</sup>	235,771	30,533	27,339	57,872
B	2 - General crops	435	6,526	845	753	1,598
	4 - General crops	411	5,466	708	631	1,339
	Subtotal	846 <sup>3/</sup>	11,992	1,553	1,384	2,937
	TOTAL	16,201 <sup>3/</sup>	247,763	32,086	28,723	60,809

- <sup>1/</sup> Includes engineering and contingency  
<sup>2/</sup> Amortized at 5 percent over 10 years  
<sup>3/</sup> Does not include 10 percent "other" land

Basin: Big Creek  
 Reach: 1, Big Creek  
 State: Arkansas

TABLE VIII  
 ANALYSIS OF GROUP DRAINAGE NEEDS AND COSTS

Item	Unit	Amount	Unit Cost	Total Cost
			Dollars	Dollars
Excavation <u>1/</u>				
Spreading spoil <u>1/</u>				
Clearing right-of-way <u>1/</u>	Cubic Yard	752,167	.18	135,390
Right-of-way easements	Acres	667	20.00	13,340
Crossings	Each	70	300.00	21,000
Swinging water gaps	Each	45	40.00	1,800
Pipe drop structures	Each	89	150.00	13,350
Flap gates	Each	40	100.00	4,000
Vegetative plantings	Acres	133	8.00	1,064
Total construction cost	xx	xx	xx	189,944
Engineering cost	xx	xx	xx	18,994
Contingencies and legal	xx	xx	xx	18,994
Total installation cost				227,932
Annual equivalent - installation cost (amortized for 20 years at 3½ percent)				16,037
Annual maintenance cost				9,497
Annual loss of production - right-of-way <u>2/</u>				3,111
Total annual cost of required group facilities				28,645

1/ These items included in excavation costs under normal contract procedures.

2/ Annual loss of production - right-of-way. 267 acres @ \$11.65 per acre.



Basin: Big Creek  
 Reach: 1, Big Creek  
 State: Arkansas

TABLE IX  
 SUMMARY OF ANNUAL NET PRODUCTION RETURNS  
 AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted
	<u>Dollars</u>	<u>Dollars</u>
1. Net return with project	362,505	xx
2. Net return without project	140,120	xx
3. Gross benefit to project	222,385	122,970 <u>2/</u>
4. Farm drainage cost	xx	xx <u>2/</u>
a. Installation cost	32,086	xx
b. Maintenance cost	28,723	xx
c. Total	60,809	33,625
5. Group drainage cost	xx	xx <u>3/</u>
a. Installation cost	16,037	xx
b. Maintenance cost <u>1/</u>	12,608	xx
c. Total	28,645	21,481
6. Conversion cost	xx	xx <u>2/</u>
a. Installation cost total	29,251	16,175

1/ Includes loss of production, right-of-way

2/ Discounted at 5 percent to account for estimated 25 year lag to full installation, maintenance, and benefit accrual.

3/ Discounted at 3½ percent to account for estimated 15 year lag to full installation, maintenance, and benefit accrual.



Basin: Big Creek  
 Reach: 2, Big Creek  
 State: Arkansas

TABLE I  
 PRESENT LAND USE

Zone	Soil map- ping unit	Open (Acres)	Wooded (Acres)	Urban (Acres)	Watered (Acres)	Total (Acres)
Zone A	1	20	110	-	-	130
	2	487	30	-	-	517
	4	13,072	3,124	-	-	16,196
	6	2,679	2,034	-	-	4,713
	8	292	311	-	-	603
	9	16,274	2,811	-	-	19,085
	9S	8,226	830	-	-	9,056
	11	1,249	0	-	-	1,249
	15S	396	1,868	-	-	2,264
Subtotal - all soils		42,695	11,118	-	-	53,813
Urban		-	-	825	-	825
Watered		-	-	-	39	39
Total - Zone A		42,695	11,118	825	39	54,677
Zone B	1	214	1,189	-	-	1,403
	2	391	291	-	-	682
	4	5,243	2,329	-	-	7,572
	6	4,691	10,920	-	-	15,611
	8	353	699	-	-	1,052
	9	0	116	-	-	116
	9S	86	670	-	-	756
Subtotal - all soils		10,978	16,214	-	-	27,192
Urban		-	-	-	-	-
Watered		-	-	-	-	-
Total - Zone B		10,978	16,214	-	-	27,192
Zone C	1	0	553	-	-	553
	2	38	213	-	-	251
	4	28	165	-	-	193
	6	162	3,503	-	-	3,665
	8	0	146	-	-	146
Subtotal - all soils		228	4,580	-	-	4,808
Urban		-	-	-	-	-
Watered		-	-	-	159	159
Total - Zone C		228	4,580	-	159	4,967
GRAND TOTAL - Reach 2		53,901	31,912	825	198	86,836

Basin: Big Creek  
 Reach: 2, Big Creek  
 State: Arkansas

SUMMARY - TABLE II A  
 ZONE FOR DRAINAGE CALCULATIONS ONLY  
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1) :	(2) :	(3) :	(4) :	(5) :	(6)
Soil :	Land use and crop :	<u>2/</u>	Production		
Unit :	distribution :	Acres :	Unit :	Per Acre :	Total
All :	Open land :	28,249	:	:	:
:	Crops :	25,424	:	3/ :	:
:	Cotton :	14,227	Lbs. Lint :	342	4,862,880
:	Cottonseed :	(14,227)	Ton :	.3076	4,376.58
:	Corn :	1,948	Bu. :	33	64,775
:	Rice :	52	Cwt. :	30	1,560
:	Soybeans :	2,868	Bu. :	17	48,650
:	Oats (Grain) :	2,112	Bu. :	26	54,700
:	Oats (Sup.Past.) :	(2,007)	Lbs. Beef :	70	140,490
:	Perm. Pasture :	2,355	Lbs. Beef :	180	423,375
:	Idle :	1,862	:	:	:
:	Other <u>1/</u> :	2,825	:	:	:
:	Woodland :	8,420	Acres :	:	:
:	TOTAL :	36,669 <u>4/</u>	:	:	:

- 1/ Farmsteads, farm roads, waste and non-agricultural  
2/ Parenthetical amounts are duplicated acreages  
3/ Calculated from Columns 3 and 6; rounded to nearest unit  
4/ Total area Zone A reduced by 825 acres urban, 39 acres watered, and 17,114 acres lands already drained or not requiring drainage.



Basin: Big Creek  
 Reach: 2, Big Creek  
 State: Arkansas

SUMMARY - TABLE III A  
 ZONE FOR DRAINAGE CALCULATIONS ONLY  
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION, PRODUCTION  
 COSTS AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT  
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil: Land use and crop		<u>2/</u>	Production		Value of production	Cost of production	Net			
Unit: distribution	Acres	Unit	Per Acre	Total	Per Unit	Total	Per Acre	Total	Return	
All	Open land	12,886								
	Crops	11,598								
	Cotton	6,712	Lbs. lint	3/ 390	2,615,980	63.00	653,995	103.11	692,102	110,219
	Cottonseed	(6,712)	Ton	3508	2,354,38	1.45	148,326			
	Corn	881	Bu.	38	33,849	2.30	49,081	32.61	28,730	20,351
	Soybeans	1,223	Bu.	23	28,041	.90	64,494	28.31	34,621	29,873
	Oats (Grain)	835	Bu.	31	25,871	.2005	23,284	19.77	16,506	6,778
	Oats (Sup. Past.)	(782)	Lbs. Beef	94	73,890	.2005	14,815	8.00	6,257	8,558
	Perm. Pasture	1,091	Lbs. Beef	230	251,345		50,394	32.56	35,518	14,876
	Idle	856								
	Other 1/	1,288								
	Woodland	5,204	Acres			11.77	61,251	7.37	38,352	22,899
	TOTAL	18,090 5/					1,065,640		852,086	213,554

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit.
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent.
- 5/ Total area Zone A reduced by 825 acres urban, 39 acres watered, 3,216 acres woodland not anticipated to be cleared, and 32,507 acres lands already drained or not requiring drainage.

Basin: Big Creek  
 Reach: 2, Big Creek  
 State: Arkansas

SUMMARY - TABLE IV A  
 ZONE FOR DRAINAGE CALCULATIONS ONLY  
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION,  
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT  
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	2/ Acres	Unit	Production	Total	Value of production Per Unit	Cost of production Per Unit	Net	Return	
Unit	distribution			Per Acre		Dollars	Dollars	Dollars	Dollars	Dollars
ALL	Open land	18,090								
	Crops	16,281								
	Cotton	9,565	Lbs. Lint	3/ 600	5,743,440	.25	1,435,860	157.71	1,508,483	253,030
	Cottonseed	(9,565)	Ton	.5404	5,169.09	63.00	325,653			
	Corn	1,219	Bu.	51	62,621	1.45	90,800	42.80	52,179	38,621
	Soybeans	1,941	Bu.	24	45,629	2.30	104,947	28.76	55,830	49,117
	Oats (Grain)	1,124	Bu.	43	48,662	.90	43,796	26.33	29,594	14,202
	Oats (Sup. Past.)	(1,124)	Lbs. Beef	137	154,195	.2005	30,916	12.59	14,150	16,766
	Perm. Pasture	1,618	Lbs. Beef	364	589,225	.2005	118,139	49.01	79,293	38,846
	Idle	814								
	Other	1,809								
	Woodland	-	Acres							
	TOTAL	18,090					2,150,111		1,739,529	410,582

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages.
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent.
- 5/ Total area Zone A reduced by 825 acres urban, 39 acres watered, 3,216 acres woodland not anticipated to be cleared, and 32,507 acres lands already drained or not requiring drainage.



Basin: Big Creek  
 Reach: 2, Big Creek  
 State: Arkansas

SUMMARY -- TABLE II B  
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS  
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1) :	(2) :	(3) :	(4) :	(5) :	(6)
Soil :	Land use and crop :	<u>2/</u>	:	Production	
Unit :	distribution :	Acres	Unit	Per Acre:	Total
All :	Open land	10,978	:	:	:
:	Crops	9,881	:	3/	:
:	Cotton	5,220	Lbs. Lint:	358	1,871,265
:	Cottonseed	(5,220)	Ton	.3226	1,684.14
:	Corn	599	Bu.	27	16,095
:	Rice	452	Cwt.	31	14,181
:	Soybeans	1,796	Bu.	20	35,385
:	Oats (Grain)	978	Bu.	30	29,741
:	Oats (Sup.Past.):	(264)	Lbs.Beef	90	23,760
:	Grain Sorghum	54	Bu.	16	864
:	Perm. Pasture	332	Lbs. Beef:	212	70,520
:	Idle	450	:	:	:
:	Other <u>1/</u>	1,097	:	:	:
:	Woodland	16,094	Acres	:	:
:	TOTAL	27,072 <u>4/</u>	:	:	:
:	:	:	:	:	:

- 1/ Farmsteads, farm roads, waste and non-agricultural  
2/ Parenthetical amounts are duplicated acreages  
3/ Calculated from Columns 3 and 6; rounded to nearest unit.  
4/ Total area Zone B reduced by 120 acres dedicated to woodland.

Basin: Big Creek  
 Reach: 2, Big Creek  
 State: Arkansas

SUMMARY - TABLE III B  
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS  
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION  
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT  
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil : Land use and crop	Acres	2/	Unit	Production	Total	Value of production	Cost of production	Net		
Unit : distribution	Acres		Unit	Per Acre	Total	Per Unit	Total	Per Acre	Total	Return
						Dollars	Dollars	Dollars	Dollars	Dollars
All : Open land	11,299									
: Crops	10,169									
: Cotton	5,833		Lbs. lint	438 <sup>3/</sup>	2,556,065	.25	639,016	116.98 <sup>4/</sup>	682,335	101,610 <sup>5/</sup>
: Cottonseed	(5,833)		Ton	.3944	2,300.46	63.00	144,929			102,032 <sup>6/</sup>
: Corn	627		Bu.	31	19,727	1.45	28,604	27.02	16,942	11,662
: Soybeans	1,845		Bu.	24	43,439	2.30	99,910	28.85	53,222	46,688
: Oats (Grain)	1,005		Bu.	36	36,095	.90	32,486	22.30	22,415	10,071
: Oats (Sup. Past.)	(268)		Lbs. Beef	125	33,500	.2005	6,716	11.28	3,023	3,693
: Grain Sorghum	57		Bu.	17	969	1.53	1,483	17.18	979	504
: Perm. Pasture	338		Lbs. Beef	280	94,740	.2005	18,995	38.62	13,055	5,940
: Idle	464									
: Other <sup>1/</sup>	1,130									
: Woodland	11,829		Acres			11.77	139,228	7.37	87,179	52,049
TOTAL	23,128 <sup>7/</sup>						1,111,367		879,150	232,217 <sup>5/</sup>
										232,639 <sup>6/</sup>

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages.
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent.
- 5/ Includes calculated negative net return.
- 6/ Adjusted to eliminate negative net return.
- 7/ Total area Zone B reduced by 120 acres dedicated to woodland, and 3,944 acres woodland not anticipated to be cleared.



Basin: Big Creek  
Reach: 2, Big Creek  
State: Arkansas

SUMMARY - TABLE IV B  
COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION  
PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT  
(Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil Unit	Land use and crop distribution	Acre	Unit	Production Per Acre	Total	Value of production Per Unit	Total	Cost of production Per Acre	Total	Net Return
						Dollars	Dollars	Dollars	Dollars	Dollars
All	Open land	23,128								
	Crops	20,816								
	Cotton	12,711	Lbs. lint	558 <sup>3/</sup>	7,097,965	.25	1,774,490	149.10 <sup>4/</sup>	1,895,235	281,710
	Cottonseed	(12,711)	Ton	.5026	6,388.16	63.00	402,455			
	Corn	1,608	Bu.	42	66,777	1.45	96,826	34.81	55,979	40,847
	Soybeans	3,700	Bu.	25	91,369	2.30	210,148	29.66	109,744	100,404
	Oats (Grain)	1,170	Bu.	42	48,962	.90	44,066	25.46	29,792	14,274
	Oats (Sup.Past.)	(443)	Lbs. Beef	144	63,985	.2005	12,828	13.37	5,923	6,905
	Grain Sorghum	62	Bu.	22	1,364	1.53	2,087	20.27	1,257	830
	Perm. Pasture	568	Lbs. Beef	346	196,360	.2005	39,370	46.74	26,549	12,821
	Idle	997								
	Other <sup>1/</sup>	2,312								
	Woodland	-	Acre							
	TOTAL	23,128 <sup>5/</sup>					2,582,270		2,124,479	457,791

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit.
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent.
- 5/ Total area Zone B reduced by 120 acres dedicated and 3,944 acres woodland not anticipated to be cleared.

Basin: Big Creek  
 Reach: 2, Big Creek  
 State: Arkansas

SUMMARY - TABLE II C  
 ZONE OF NO PROJECT BENEFIT  
 COMPUTATION OF AGRICULTURAL PRODUCTION  
 EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil	Land use and crop			Production	
Unit	distribution	Acres	Unit	Per Acre	Total
All	Open land	228			
	Crops	205		2/	
	Corn	62	Bu.	18	1,096
	Soybeans	40	Bu.	14	560
	Idle	103			
	Other <u>1/</u>	23			
	Woodland	839	Acres		
	TOTAL	1,067 <u>3/</u>			

1/ Farm roads, waste, and non-agricultural

2/ Calculated from Columns 3 and 6; rounded to nearest unit

3/ Total area Zone C reduced by 170 acres dedicated woodland, 159 acres watered area, and 3,571 acres woodland not anticipated to be cleared.



Basin: Big Creek  
 Reach: 2, Big Creek  
 State: Arkansas

SUMMARY - TABLE III C 2/  
 ZONE OF NO PROJECT BENEFIT  
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION,  
 PRODUCTION COST AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT  
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	Acres	Unit	Production Per Acre	Total	Value of production Per Unit	Total	Cost of production Per Acre	Total	Net Return
Unit	distribution					Dollars	Dollars	Dollars	Dollars	Dollars
All	Open Land	1,067								
	Crops	960								
	Corn	288	Bu.	<u>3/</u> 20	5,859	1.45	8,495	20.33	5,855	2,640
	Soybeans	270	Bu.	15	4,050	2.30	9,314	21.82	5,892	3,422
	Idle	402								
	Other <u>2/</u>	107								
	Woodland	-	Acres							
	TOTAL	<u>1,067</u> <u>5/</u>					<u>17,809</u>		<u>11,747</u>	<u>6,062</u>

1/ Data same for both "With Project" and "Without Project". No Table IV C required  
2/ Farm roads, waste and non-agricultural  
3/ Calculated from Columns 3 and 6; rounded to nearest unit.  
4/ Calculated from Columns 3 and 10; rounded to nearest cent.  
5/ Total area Zone C reduced by 159 acres watered, 170 acres dedicated to woodland, and 3,571 acres woodland not anticipated to be cleared.

Basin: Big Creek  
 Reach: 2, Big Creek  
 State: Arkansas

TABLE V  
 REACH SUMMARY BY SOIL MAPPING UNITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Soil Unit	Acres	Gross	Future Without Project (Production in Dollars)	Cost	Net	Gross	Future With Project (Production in Dollars)	Difference in Net Production
ZONE A - (not subject to flooding)								
2	272	16,964	13,263	3,701	35,669	28,547	7,122	3,421
4	7,137	535,134	429,008	106,126	1,030,826	824,042	206,784	100,658
6	2,281	49,412	39,053	10,359	270,622	217,268	53,354	42,995
9	8,400	464,130	370,762	93,368	812,994	669,672	143,322	49,954
Subtotal	18,090	1,065,640	852,086	213,554	2,150,111	1,739,529	410,582	197,028
ZONES B & C - (Subject to flooding)								
1	1,918	41,804	34,483	7,743	153,903	127,657	26,246	18,503
4	6,998	565,290	451,183	114,107	907,072	728,245	178,827	64,720
6	13,806	484,859	375,880	108,979	1,421,536	1,187,316	234,220	125,241
8	881	23,438	19,402	4,036	70,035	55,469	14,566	10,530
9S	592	13,785	9,949	3,836	47,533	37,539	9,994	6,158
Subtotal	24,195	1,129,176	890,897	238,701	2,600,079	2,136,226	463,853	225,152
TOTAL	42,285	2,194,816	1,742,983	452,255	4,750,190	3,875,755	874,435	422,180

1/ Adjusted to eliminate negative net return  
 2/ Zone A reduced by 825 acres urban, 39 acres watered, 3,216 acres woodland not to be cleared, and 32,507 acres already drained or not requiring drainage  
 3/ Zones B & C reduced by 159 acres watered, 290 acres dedicated woodland, and 7,515 acres woodland not to be cleared.



Basin: Big Creek  
 Reach: 2, Big Creek  
 State: Arkansas

TABLE VI  
 LAND CONVERSIONS WITH PROJECT

(1)	(2)	(3)	(4)	(5)
Type of Conversion <u>1/</u>	Total Amount	Cost of Clearing	Cost of Smoothing	Total Cost
	<u>Acres</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>
Per Acre				
W to GC	xx	60	10	xx
W to IC	xx	-	-	xx
W to P	xx	60	xx	xx
P to GC	xx	xx	-	xx
P to IC	xx	xx	-	xx
GC to IC	xx	xx	xx	xx
GC to P	xx	xx	xx	xx
Project				
W to GC	16,276	976,560	162,760	1,139,320
W to IC	-	-	-	-
W to P	757	45,420	xx	45,420
P to GC	-	xx	-	-
P to IC	-	xx	-	-
GC to IC	-	xx	xx	-
GC to P	-	xx	xx	-
Total project	xx	1,021,980	162,760	1,184,740
Annual amortized value <u>2/</u>	xx	xx	xx	64,900
Total annual cost of conversions	xx	xx	xx	64,900

1/ W-woodland; GC-general dry-farmed crops; IC-irrigated crops; (rice); P-pasture.

2/ Amortized over 50 years at 5 percent.

Basin: Big Creek  
 Reach: 2, Big Creek  
 State: Arkansas

TABLE VII  
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

Zone	Soil mapping unit and land use	Area Acres	Total Cost Installation <u>1/</u> Dollars	Annual Equivalent Cost <u>2/</u> Dollars	Annual Maintenance Cost Dollars	Total Annual Cost Dollars
A	2 - General crops	245	3,675	476	424	900
	4 - General crops	6,102	81,150	10,509	9,363	19,872
	4 - Pasture	321	2,612	338	60	398
	6 - General crops	1,663	23,370	3,026	3,595	6,621
	6 - Pasture	390	5,481	710	422	1,132
	9 - General crops	6,653	88,478	11,458	10,209	21,667
	9 - Pasture	907	7,382	956	170	1,126
	Subtotal	16,281 <u>3/</u>	212,148	27,473	24,243	51,716
	1 - General crops	1,041	18,013	2,333	2,078	4,411
	1 - Pasture	44	409	53	9	62
B	4 - General crops	3,252	43,249	5,601	4,990	10,591
	4 - Pasture	208	1,692	219	39	258
	6 - General crops	7,657	107,603	13,935	16,554	30,489
	8 - General crops	485	9,345	1,210	1,078	2,288
	8 - Pasture	20	307	40	12	52
	Subtotal	12,707 <u>3/</u>	180,618	23,391	24,760	48,151
	TOTAL	28,988 <u>3/</u>	392,766	50,864	49,003	99,867

1/ Includes engineering and contingency  
2/ Amortized at 5 percent over 10 years

3/ Does not include 10 percent "other" land



Basin: Big Creek  
 Reach: 2, Big Creek  
 State: Arkansas

TABLE VIII  
 ANALYSIS OF GROUP DRAINAGE NEEDS AND COSTS

Item	Unit	Amount	Unit Cost	Total Cost
			Dollars	Dollars
Excavation <u>1/</u>				
Spreading spoil <u>1/</u>				
Clearing right-of-way <u>1/</u>	Cubic Yard	1,121,970	.18	201,955
Right-of-way easements	Acres	508	20.00	10,160
Crossings	Each	70	400.00	28,000
Swinging water gaps	Each	68	40.00	2,720
Pipe drop structures	Each	90	150.00	13,500
Flap gates	Each	50	100.00	5,000
Vegetative plantings	Acres	169	8.00	1,352
Total construction cost	xx	xx	xx	262,687
Engineering cost	xx	xx	xx	26,269
Contingencies and legal	xx	xx	xx	26,269
Total installation cost				315,255
Annual equivalent - installation cost (amortized for 20 years at $3\frac{1}{2}$ percent)				22,181
Annual maintenance cost				13,134
Annual loss of production - right-of-way <u>2/</u>				2,123
Total annual cost of required group facilities				37,438

1/ These items included in excavation costs under normal contract procedures.

2/ Annual loss of production - right-of-way. 203 acres @ \$10.46 per acre.

Basin: Big Creek  
 Reach: 2, Big Creek  
 State: Arkansas

TABLE IX  
 SUMMARY OF ANNUAL NET PRODUCTION RETURNS  
 AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted Amount
	Dollars	Dollars
1. Net return with project	874,435	xx
2. Net return without project	452,255	xx
3. Gross benefit to project	422,180	233,449 <u>2/</u>
4. Farm drainage cost	xx	xx <u>2/</u>
a. Installation cost	50,864	xx
b. Maintenance cost	49,003	xx
c. Total	99,867	55,223
5. Group drainage cost	xx	xx <u>3/</u>
a. Installation cost	22,181	xx
b. Maintenance cost <u>1/</u>	15,257	xx
c. Total	37,438	28,075
6. Conversion cost	xx	xx <u>2/</u>
a. Installation cost	64,900	35,887

1/ Includes loss of production, right-of-way

2/ Discounted at 5 percent to account for estimated 25 year lag to full installation, maintenance, and benefit accrual.

3/ Discounted at 3½ percent to account for estimated 15 year lag to full installation, maintenance, and benefit accrual.



Basin:	Big Creek
Reach:	3, Big Creek
State:	Arkansas

TABLE I  
PRESENT LAND USE

( Zone	: Soil map- : ing unit :	Open (Acres)	: Wooded (Acres)	: Watered (Acres)	: Urban (Acres)	: Total (Acres)
Zone A	: 8	: 113	: 189	: -	: -	: 302
	: 9	: 6,792	: 1,236	: -	: -	: 8,028
	: 9S	: 10,349	: 1,604	: -	: -	: 11,953
	: 10	: 1,283	: 500	: -	: -	: 1,783
Subtotal - all soils	:	: 18,537	: 3,529	: -	: -	: 22,066
Watered	:	: -	: -	: -	: -	: -
Urban	:	: -	: -	: -	: 94	: 94
Total - Zone A	:	: 18,537	: 3,529	: -	: 94	: 22,160
Zone B	: 8	: 742	: 1,430	: -	: -	: 1,430
	: 9S	: 742	: 343	: -	: -	: 1,085
Subtotal - all soils	:	: 742	: 1,773	: -	: -	: 2,515
Watered	:	: -	: -	: 38	: -	: 38
Urban	:	: -	: -	: -	: -	: -
Total - Zone B	:	: 742	: 1,773	: 38	: -	: 2,553
No C Zone	:	: -	: -	: -	: -	: -
GRAND TOTAL - REACH 3	:	: 19,279	: 5,302	: 38	: 94	: 24,713

Basin: Big Creek  
 Reach: 3, Big Creek  
 State: Arkansas

SUMMARY - TABLE II A  
 ZONE FOR DRAINAGE CALCULATIONS ONLY  
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1):	(2)	:	(3)	:	(4)	:	(5)	:	(6)
Soil :	Land use and crop	:	2/	:		:	Production	:	
Unit :	distribution	:	Acres	:	Unit	:	Per Acre:	:	Total
:	:	:	:	:	:	:	:	:	:
All :	Open land	:	7,875	:	:	:	:	:	:
:	Crops	:	7,088	:	3/	:	:	:	:
:	Cotton	:	3,206	:	Lbs. Lint:	:	303:	:	970,590
:	Cottonseed	:	(3,206)	:	Ton	:	.2725:	:	873.53
:	Corn	:	366	:	Bu.	:	24:	:	8,874
:	Rice	:	173	:	Cwt.	:	24:	:	4,152
:	Soybeans	:	662	:	Bu.	:	16:	:	10,385
:	Oats (Grain)	:	554	:	Bu.	:	24:	:	13,155
:	Oats (Sup. Past.)	:	(554)	:	Lbs. Beef:	:	66:	:	36,695
:	Perm. Pasture	:	1,172	:	Lbs. Beef:	:	180:	:	210,960
:	Idle	:	955	:	:	:	:	:	:
:	Other 1/	:	737	:	:	:	:	:	:
:	Woodland	:	1,925	:	Acres	:	:	:	:
:	Total	:	9,800	:	:	:	:	:	:
:	:	:	4/	:	:	:	:	:	:

- 1/ Farmsteads, farm roads, waste and non-agricultural  
 2/ Parenthetical amounts are duplicated acreages  
 3/ Calculated from columns 3 and 6; rounded to nearest unit  
 4/ Total acreage zone A reduced by 94 acres urban and 12,226 acres already drained or not requiring drainage.



Basin: Big Creek  
 Reach: 3, Big Creek  
 State: Arkansas

SUMMARY • TABLE III A  
 ZONE FOR DRAINAGE CALCULATIONS ONLY  
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION,  
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT  
 (Based on projected prices)

(1) Unit	(2) Land use and crop distribution	(3) Acres	(4) Unit	(5) Production Per Acre	(6) Total	(7) Value of production Per Unit	(8) Total	(9) Cost of production Per Acre	(10) Total	(11) Net Return
All	Open land	5,577								
	Crops	5,019		3/				4/		
	Cotton	2,278	Lbs.Lint	341	776,900	.25:194,225	92,44	210,579		27,696
	Cottonseed	(2,278)	Ton	.3069	699.21	63.00: 44,050				
	Corn	258	Bu.	29	7,372	1.45: 10,689	24.94	6,435		4,254
	Rice	116	Cwt.	25	2,900	3.75: 10,875	87.64	10,166		709
	Soybeans	410	Bu.	21	9,972	2.30: 22,935	26.97	12,678		10,257
	Oats (Grain)	390	Bu.	28	10,863	.90: 9,777	18.29	7,135		2,642
	Oats (Sup.Past)	(390)	Lbs.Beef	82	31,845	.2005: 6,385	6.62	2,582		3,803
	Perm. Pasture	835	Lbs.Beef	231	192,725	.2005: 38,641	32.60	27,222		11,419
	Idle	672								
	Other	558								
	Woodland	1,112	Acres			9.15: 10,175	4.49	4,993		5,182
	TOTAL	6,689				:347,752:		281,790		65,962
		5/								

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from columns 3 and 6; rounded to nearest unit
- 4/ Calculated from columns 3 and 10; rounded to nearest cent
- 5/ Total area zone A reduced by 94 acres urban, 14,564 acres already drained or not requiring drainage, and 813 acres woodland not anticipated to be cleared.

Basin: Big Creek  
 Reach: 3, Big Creek  
 State: Arkansas

SUMMARY - TABLE IV A  
 ZONE FOR DRAINAGE CALCULATIONS ONLY, COMPUTATION  
 OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION,  
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT  
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil: Land use and crop:	2/	Acres	Unit	Production	Total	Value	Total	Cost	Net	Return
Unit: distribution				Per Acre	Per Unit	of production	Per Acre	of production	Total	Dollars
All: Open land		6,689								
: Crops		6,021		3/				4/		
: Cotton		3,209	Lbs. Lint	446	1,432,575	25	358,144	115.53	370,737	68,634
: Cottonseed		(3,209)	Ton	4018	1,289,32	63.00	81,227			
: Corn		311	Bu.	39	12,257	1.45	17,775	32.94	10,244	7,529
: Rice		153	Cwt.	35	5,355	3.75	20,081	111.17	17,009	3,072
: Soybeans		913	Bu.	22	19,760	2.30	45,448	27.40	25,015	20,433
: Oats (Grain)		592	Bu.	39	23,312	.90	20,981	23.95	14,180	6,801
: Oats (Sup. Past)		(541)	Lbs. Beef	122	66,190	2005	13,271	10.99	5,948	7,323
: Perm. Pasture		541	Lbs. Beef	340	183,940	2005	36,880	46.05	24,913	11,967
: Idle		302								
: Other 1/		668								
: Woodland			Acres							
: TOTAL		6,689					593,805		468,046	125,759

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from columns 3 and 6; rounded to nearest unit
- 4/ Calculated from columns 3 and 10; rounded to nearest cent
- 5/ Total area zone A reduced by 94 acres urban, 14,564 acres already drained or not requiring drainage, and 813 acres woodland not anticipated to be cleared.

Basin: Big Creek  
 Reach: 3, Big Creek  
 State: Arkansas

SUMMARY - TABLE II B  
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS  
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil	Land use and crop	2/	Production		
Unit	distribution	Acres	Unit	Per Acre	Total
All	Open land	742			
	Crops	668		3/	
	Cotton	367	Lbs. Lint	295	108,265
	Cottonseed	(367)	Ton	.2655	97.44
	Corn	60	Bu.	24	1,440
	Soybeans	27	Bu.	16	432
	Grain Sorghum	27	Bu.	15	405
	Perm. Pasture	114	Lbs. Beef	195	22,230
	Idle	73			
	Other 1/	74			
	Woodland	1,773	Acres		
	TOTAL	2,515			
		4/			

- 1/ Farmsteads, farm roads, waste and non-agricultural  
 2/ Parenthetical amounts are duplicated acreages  
 3/ Calculated from columns 3 and 6; rounded to nearest unit  
 4/ Total area zone B reduced by 34 acres watered area



Basin: Big Creek  
 Reach: 3, Big Creek  
 State: Arkansas

SUMMARY - TABLE III B  
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS  
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION,  
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT  
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil: Land use and crop:	2/	Acres:	Unit	Production:	Value of production:	Cost of production:	Net			
Unit:	distribution	Acres:	Unit	Per acre:	Total	Per Unit:	Total	Per acre:	Total	Return
All: Open Land		742								
: Crops		668		3/				4/		
: Cotton		160	Lbs. Lint:	425	68,000	.25:	17,000	110.92:	17,747	3,109
: Cottonseed		(160)	Ton	3825	61.20	63.00:	3,856			
: Corn		40	Bu.	34	1,360	1.45:	1,972	28.46:	1,138	834
: Soybeans		100	Bu.	21	2,100	2.30:	4,830	26.98:	2,698	2,132
: Oats (Grain)		134	Bu.	36	4,824	.90:	4,342	22.17:	2,971	1,371
: Oats (Sup. Past)		(134)	Lbs. Beef:	125	16,750	.2005:	3,358	11.28:	1,512	1,846
: Perm. Pasture		174	Lbs. Beef:	340	59,160	.2005:	11,862	45.06:	8,013	3,849
: Idle		60								
: Other 1/		74								
: Woodland		869	Acres			9.15:	7,951	4.49:	3,901	4,050
: TOTAL		1,611 5/					55,171		37,980	17,191

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from columns 3 and 6; rounded to nearest unit
- 4/ Calculated from columns 3 and 10; rounded to nearest cent
- 5/ Total area zone B reduced by 38 acres watered area and 904 acres woodland not anticipated to be cleared.

Basin: Big Creek  
 Reach: 3, Big Creek  
 State: Arkansas

SUMMARY - TABLE IV B  
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS  
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION,  
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT

(Based on projected prices)

(1):	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil: Land use and crop:	2/	Acres	Unit	Production	Total	Value of production: Per Unit	Cost of production: Per Acre	Total	Net	Return
Units: distribution				Per Acre		Dollars	Dollars	Dollars	Dollars	Dollars
All: Open Land										
: Crops		1,611:		3/				4/		
: Cotton		1,450:				25:	39,056			
: Cottonseed		377.1:	lbs. lint:	414		63.00:	8,858		108.28:	40,821
: Corn		48:	Bu.	34		1.45:	2,366		28.46:	1,366
: Rice		161:	Cwt.	32		3.75:	19,320		104.43:	16,813
: Soybeans		242:	Bu.	22		2.30:	11,985		27.33:	6,613
: Oats (Grain)		205:	Bu.	35		.90:	6,548		21.91:	4,492
: Oats (Sup. Past.)		(205):	Lbs. Beef:	117		.2005:	4,825		10.46:	2,145
: Perm. Pasture		306:	Lbs. Beef:	338		.2005:	20,732		45.79:	14,013
: Idle		111:								
: Other 1/		161:								
: Woodland		-:	Acres							
: TOTAL		1,611:					113,680		86,263	27,417
		5/:								

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from columns 3 and 6; rounded to nearest unit
- 4/ Calculated from columns 3 and 10; rounded to nearest cent
- 5/ Total area zone B reduced by 38 acres watered area and 904 acres woodland not anticipated to be cleared.



Basin: Big Creek  
 Reach: 3, Big Creek  
 State: Arkansas

TABLE V  
 REACH SUMMARY BY SOIL MAPPING UNITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Soil Unit :	Acres :	Gross :	Cost :	Net :	Gross :	Cost :	Net :	Difference
								in Net
								Production
9	5,555	306,536	246,312	60,224	496,607	389,714	106,893	46,669
10	1,134	41,216	35,478	5,738	97,198	78,332	18,866	18,128
Subtotal	6,689	347,752	281,790	65,962	593,805	468,046	125,759	59,797
8	715	6,542	3,210	3,332	57,506	45,953	11,553	8,221
9S	896	48,629	34,770	13,859	56,174	40,310	15,864	2,005
Subtotal	1,611	55,171	37,980	17,191	113,680	86,263	27,417	10,226
TOTAL	8,300	402,923	319,770	83,153	707,485	554,309	153,176	70,023

- 1/ Total area zone A reduced by 94 acres urban, 14,564 acres of lands already drained or not requiring drainage, and 813 acres woodlands not anticipated to be cleared.
- 2/ Total area zone B reduced by 38 acres watered area and 904 acres of woodland not anticipated to be cleared.



Basin: Big Creek  
 Reach: 3, Big Creek  
 State: Arkansas

TABLE VI  
 LAND CONVERSIONS WITH PROJECT

(1)	(2)	(3)	(4)	(5)
Type of Conversion 1/	Total Amount	Cost of Clearing	Cost of Smoothing	Total Cost
	Acres	Dollars	Dollars	Dollars
Per Acre				
W to GC	xx	60	10	xx
W to IC	xx	60	10	xx
W to P	xx	60	xx	xx
P to GC	xx	xx	xx	xx
P to IC	xx	xx	-	xx
GC to IC	xx	xx	xx	xx
GC to P	xx	xx	xx	xx
Project				
W to GC	1,651	99,060	16,510	115,570
W to IC	198	11,880	1,980	13,860
W to P	132	7,920	xx	7,920
P to GC	294	xx	-	-
P to IC	-	xx	-	-
GC to IC	-	xx	xx	-
GC to P	-	xx	xx	-
Total project	xx	118,860	18,490	137,350
Annual amortized value 2/	xx	xx	xx	7,524
Total annual cost of conversions	xx	xx	xx	7,524

1/ W-woodland; GC- general dry-farmed crops; IC- irrigated crops; (rice);  
 P-pasture

2/ Amortized over 50 years at 5 percent

Basin: Big Creek  
 Reach: 3, Big Creek  
 State: Arkansas

TABLE VII  
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

Zone	Soil mapping unit and land use	Acres	Total Cost Installation 1/ Dollars	Annual Equivalent Instl. cost 2/ Dollars	Annual Maintenance Cost Dollars	Total Annual Cost Dollars
A	9 - General crops	4,500	59,845	7,750	6,905	14,655
	9 - Pasture	500	4,069	527	94	621
	10 - General crops	827	10,998	1,424	1,269	2,693
	10 - Rice	153	1,272	165	49	214
	10 - Pasture	41	240	44	13	57
	Subtotal	6,021 <sup>3/</sup>	76,524	9,910	8,330	18,240
B	8 - General crops	272	5,240	679	605	1,284
	8 - Rice	105	906	117	35	152
	8 - Pasture	42	645	84	25	109
	Subtotal	419 <sup>3/</sup>	6,791	880	665	1,545
	TOTAL	6,440 <sup>3/</sup>	83,315	10,790	8,995	19,785

- 1/ Includes engineering and contingency
- 2/ Amortized at 5 percent over 10 years
- 3/ Does not include 10 percent "other" land

Basin: Big Creek  
 Reach: 3, Big Creek  
 State: Arkansas

TABLE VIII  
 ANALYSIS OF GROUP DRAINAGE NEEDS AND COSTS

Item	Unit	Amount	Unit Cost	Total Cost
			Dollars	Dollars
Excavation <u>1/</u>				
Shaping or spreading spoil <u>1/</u>				
Clearing right-of-way <u>1/</u>	Cubic Yard	146,890	.20	29,378
Right-of-way easements	Acres	111	15.00	1,665
Crossings	Each	11	300.00	3,300
Swinging water gaps	Each	11	40.00	440
Pipe drop structures	Each	11	100.00	1,100
Flap gates	Each	10	100.00	1,000
Vegetative plantings	Acres	22	8.00	176
Total construction cost	xx	xx	xx	37,059
Engineering cost	xx	xx	xx	3,706
Contingencies and legal	xx	xx	xx	3,706
Total installation cost				44,471
Annual equivalent-installation cost (amortized for 20 years at $3\frac{1}{2}$ percent)				3,129
Annual maintenance cost				1,853
Annual loss of production, right-of-way <u>2/</u>				273
Total annual cost of required group facilities				5,255

1/ These items included in excavation costs under normal contract procedures.

2/ Annual loss of production - right-of-way on 33 acres at \$8.26 per acre.



Basin: Big Creek  
 Reach: 3, Big Creek  
 State: Arkansas

TABLE IX  
 SUMMARY OF ANNUAL NET PRODUCTION RETURNS AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted Amount
	Dollars	Dollars
1. Net return with project	153,176	xx
2/ Net return without project	83,153	xx
3. Gross benefit to project	70,023	43,500 2/
4. Farm drainage cost	xx	xx 2/
a. Installation cost	10,790	xx
b. Maintenance cost	8,995	xx
c. Total	19,785	12,291
5. Group drainage cost	xx	xx 3/
a. Installation cost	3,129	xx
b. Maintenance cost 1/	2,126	xx
c. Total	5,255	4,364
6. Conversion cost	xx	xx 2/
a. Installation cost Total	7,524	4,674

- 1/ Includes loss of production, right-of-way  
 2/ Discounted at 5 percent to account for estimated 20 year lag to full installation, maintenance, and benefit accrual.  
 3/ Discounted at  $3\frac{1}{2}$  percent to account for estimated 10 year lag to full installation, maintenance, and benefit accrual.

Basin: Big Creek  
 Reach: 4, Big Creek  
 State: Arkansas

TABLE I  
 PRESENT LAND USE

Zone	Soil map- ping unit	Open (Acres)	Wooded (Acres)	Watered (Acres)	Urban (Acres)	Total (Acres)
Zone A	7	5,760	594	-	-	6,354
	8	231	305	-	-	536
	9	35,459	9,878	-	-	45,337
	9S	12,436	2,533	-	-	14,969
	10	7,917	11,111	-	-	19,028
Subtotal - all soils		61,803	24,421	-	-	86,224
Urban		-	-	-	641	641
Watered		-	-	18	-	18
Total - Zone A		61,803	24,421	18	641	86,883
Zone B	7	361	647	-	-	1,008
	8	1,130	5,455	-	-	6,585
	9	3,940	1,702	-	-	5,642
	9S	97	109	-	-	206
	10	1,902	2,903	-	-	4,805
Subtotal - all soils		7,430	10,816	-	-	18,246
Urban		-	-	-	-	-
Watered		-	-	140	-	140
Total - Zone B		7,430	10,816	140	-	18,386
No Zone C		-	-	-	-	-
GRAND TOTAL - Reach:4		69,233	35,237	158	641	105,269

Basin: Big Creek  
 Reach: 4, Big Creek  
 State: Arkansas

SUMMARY - TABLE II A  
 ZONE FOR DRAINAGE CALCULATIONS ONLY  
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1) :	(2)	(3)	(4)	(5)	(6)
Soil :	Land use and crop	2/	Production		
Unit :	distribution	Acres	Unit	Per Acre:	Total
All :	Open land	:47,842	:	:	:
:	Crops	:43,057	:	3/	:
:	Cotton	:19,998	:Lbs.Lint:	308	: 6,166,745
:	Cottonseed	:(19,998)	: Ton :	.2775	: 5,550.07
:	Corn	: 4,216	: Bu. :	26	: 111,111
:	Rice	: 1,285	: Cwt. :	24	: 30,840
:	Soybeans	: 5,469	: Bu. :	15	: 84,609
:	Oats (Grain)	: 4,876	: Bu. :	24	: 119,135
:	Oats (Sup.Past.)	:(3,332)	:Lbs.Beef:	68	: 224,945
:	Grain Sorghum	: 210	: Bu. :	19	: 3,990
:	Perm. Pasture	: 4,227	:Lbs.Beef:	180	: 760,860
:	Idle	: 2,776	:	:	:
:	Other 1/	: 4,785	:	:	:
:	Woodland	:21,888	: Acre :	:	:
:	TOTAL	:69,730 4/	:	:	:

1/ Farmsteads, farm roads, waste and non-agricultural

2/ Parenthetical amounts are duplicated acreages

3/ Calculated from Columns 3 and 6; rounded to nearest unit

4/ Total area Zone A reduced by 641 acres urban, 18 acres watered, and 16,494 acres already drained or not requiring drainage.



Basin: Big Creek  
 Reach: 4, Big Creek  
 State: Arkansas

SUMMARY - TABLE III A  
 ZONE FOR DRAINAGE CALCULATIONS ONLY  
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION, PRODUCTION  
 COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT  
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	2/	Unit	Production	Value of production	Cost of production	Net			
Unit	distribution	Acres	Unit	Per Acre	Total	Per Unit	Total	Per Acre	Total	Return
ALL	Open land	33,923								
	Crops	30,531								
	Cotton	14,922	Lbs. Lint	344	5,140,135	.25	1,285,033	4/	93.19	1,390,560
	Cottonseed	(14,922)	Ton	3100	4,626.12	63.00	291,446			185,919
	Corn	2,989	Bu.	31	91,754	1.45	133,043			53,923
	Rice	1,109	Cwt.	25	27,725	3.75	103,969			6,777
	Soybeans	2,572	Bu.	22	57,501	2.30	132,253			60,477
	Oats (Grain)	3,513	Bu.	29	101,736	.90	91,562			25,508
	Oats (Sup. Past.)	(2,301)	Lbs. Beef	85	196,450	.2005	39,388			23,231
	Grain Sorghum	939	Bu.	20	18,757	1.53	28,699			10,835
	Perm. Pasture	2,759	Lbs. Beef	227	626,295	.2005	125,572			36,978
	Idle	1,728								
	Other 1/	3,392								
	Woodland	13,139	Acres			7.08	93,024			40,731
	TOTAL	47,062 5/					2,323,989			1,879,610
										444,379

1/ Farmssteads, farm roads, waste and non-agricultural  
 2/ Parenthetical amounts are duplicated acreages  
 3/ Calculated from Columns 3 and 6; rounded to nearest unit  
 4/ Calculated from Columns 3 and 10; rounded to nearest cent  
 5/ Total area Zone A reduced by 641 acres urban, 18 acres watered, 8,749 acres woodland not anticipated to be cleared, and 30, 413 acres lands already drained or not requiring drainage.

Basin: Big Creek  
 Reach: 4, Big Creek  
 State: Arkansas

SUMMARY - TABLE IV A  
 ZONE FOR DRAINAGE CALCULATIONS ONLY  
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION,  
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT  
 (Based on projected prices)

(1) Soil Unit	(2) Land use and crop distribution	(3) Acres	(4) Unit	(5) Production Per Acre	(6) Total	(7) Value of production Per Unit	(8) Total	(9) Cost of production Per Acre	(10) Total	(11) Net Return
ALL	Open land	47,062								
	Crops	42,356								
	Cotton	22,084	Lbs. Lint	541 3/4	11,954,195	.25	2,988,548	4 1/4	149,293,297,014	369,337
	Cottonseed	(22,084)	Ton	4872	10,758,77	63.00	677,803			
	Corn	1,552	Bu.	42	65,392	1.45	94,818	35.23	54,671	40,147
	Rice	2,178	Cwt.	35	76,230	3.75	285,863	111.17	242,128	43,735
	Soybeans	3,704	Bu.	22	82,517	2.30	189,789	27.85	103,140	85,649
	Oats (Grain)	4,642	Bu.	39	180,248	.90	162,223	23.66	109,843	52,380
	Oats (Sup. Past.)	(3,642)	Lbs. Beef	116	423,540	.2005	84,920	10.34	37,675	47,245
	Grain Sorghum	1,921	Bu.	19	36,939	1.53	56,517	18.56	35,658	20,859
	Perm. Pasture	4,156	Lbs. Beef	408	1,696,250	.2005	340,099	59.83	248,672	91,427
	Idle	2,119								
	Other 1/	4,706								
	Woodland		Acres							
	TOTAL	47,062 5/8					4,880,580		4,128,801	751,779

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Total area Zone A reduced by 641 acres urban, 18 acres watered, 8,749 acres woodland not anticipated to be cleared, and 30,413 acres lands already drained or not requiring drainage.



Basin: Big Creek  
 Reach: 4, Big Creek  
 State: Arkansas

SUMMARY - TABLE II B  
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS  
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1) :	(2)	(3)	(4)	(5)	(6)
Soil : Land use and crop	:	<u>2/</u>	:	Production	
Unit : distribution	:	Acres	:	Unit : Per Acre:	Total
All :	:	:	:	:	:
: Open land	:	7,430	:	:	:
: Crops	:	6,687	:	:	:
: Cotton	:	2,851	:Lbs.Lint	301	857,305
: Cottonseed	:	(2,851)	: Ton	.2706	771.56
: Corn	:	647	: Bu.	23	15,007
: Rice	:	574	: Cwt.	24	14,016
: Soybeans	:	477	: Bu.	15	7,068
: Oats (Grain)	:	249	: Bu.	20	5,100
: Oats (Sup.Past.)	:	(147)	:Lbs.Beef	57	8,435
: Grain Sorghum	:	161	: Bu.	16	2,633
: Perm. Pasture	:	1,061	:Lbs.Beef	185	196,305
: Idle	:	667	:	:	:
: Other <u>1/</u>	:	743	:	:	:
: Woodland	:	10,296	: Acres	:	:
: TOTAL	:	17,726	:	:	:
:	:	:	:	:	:

1/ Farmsteads, farm roads, waste and non-agricultural

2/ Parenthetical amounts are duplicated acreages

3/ Calculated from Columns 3 and 6; rounded to nearest unit.



Basin: Big Creek  
 Reach: 4, Big Creek  
 State: Arkansas

SUMMARY - TABLE III B  
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS  
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION,  
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT  
 (Based on projected prices)

(1) Soil Unit	(2) Land use and crop distribution	(3) 2/ Acres	(4) Unit	(5) Production Per Acre	(6) Total	(7) Value of production Per Unit	(8) Total	(9) Cost of production Per Acre	(10) Total	(11) Net Return
ALL	Open land	7,540								
	Crops	6,786								
	Cotton	1,790	Lbs. Lint	34 3/4	616,175	.25	154,043	93.17	166,782	22,197
	Cottonseed	(1,790)	Ton	.3098	554.55	63.00	34,936			
	Corn	178	Bu.	33	5,939	1.45	8,611	28.33	5,043	3,568
	Rice	1,065	Cwt.	26	27,588	3.75	103,454	90.16	96,023	7,431
	Soybeans	1,383	Bu.	18	25,349	2.30	58,303	24.60	34,020	24,283
	Oats (Grain)	454	Bu.	31	14,095	.90	12,685	19.80	8,987	3,698
	Oats (Sup. Past.)	(402)	Lbs. Beef	67	26,790	.2005	5,371	5.16	2,075	3,296
	Grain Sorghum	29	Bu.	23	667	1.53	1,021	20.90	606	415
	Perm. Pasture	967	Lbs. Beef	227	219,865	.2005	44,083	32.20	31,133	12,950
	Idle	920								
	Other	754								
	Woodland	7,255	Acres			7.08	51,365	3.98	28,875	22,490
	TOTAL	14,795 5/8					473,872		373,544	100,328

1/ Farmsteads, farm roads, waste and non-agricultural.  
 2/ Parenthetical amounts are duplicated acreages  
 3/ Calculated from Columns 3 and 6; rounded to nearest unit  
 4/ Calculated from Columns 3 and 10; rounded to nearest cent  
 5/ Total area Zone B reduced by 140 acres watered, 520 acres dedicated to woodland, and 2,931 acres woodland not anticipated to be cleared.

Basin: Big Creek  
Reach: 4, Big Creek  
State: Arkansas

SUMMARY - TABLE IV B  
ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS  
COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION  
PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT  
(Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	2/	Unit	Production	Total	Value of production	Cost of production	Net		
Unit	distribution	Acres	Per Acre	Per Acre	Total	Per Unit	Per Acre	Total	Return	
ALL	Open land	14,795								
	Crops	13,316								
	Cotton	4,164	Lbs. Lint	483 3/4	2,011,655	.25	502,913	127.83	532,304	84,670
	Cottonseed	(4,164)	Ton	4348	1,810,49	63.00	114,061			
	Corn	235	Bu.	39	9,225	1.45	13,376	32.82	7,712	5,664
	Rice	2,895	Cwt.	32	92,640	3.75	347,400	104.43	302,325	45,075
	Soybeans	2,558	Bu.	21	53,278	2.30	122,540	26.73	68,366	54,174
	Oats (Grain)	1,023	Bu.	33	34,187	.90	30,768	20.91	21,387	9,381
	Oats (Sup. Past.)	(1,023)	Lbs. Beef	91	92,845	.2005	18,615	7.59	7,770	10,845
	Grain Sorghum	28	Bu.	23	644	1.53	985	20.90	585	400
	Perm. Pasture	1,704	Lbs. Beef	312	531,625	.2005	106,590	42.62	72,627	33,963
	Idle	709								
	Other 1/	1,479								
	Woodland	-	Acres							
	TOTAL	14,795 5/					1,257,248		1,013,076	244,172

1/ Farmsteads, farm roads, waste and non-agricultural  
2/ Parenthetical amounts are duplicated acreages  
3/ Calculated from Columns 3 and 6; rounded to nearest unit  
4/ Calculated from Columns 3 and 10; rounded to nearest cent  
5/ Total area Zone B reduced by 140 acres watered, 520 acres dedicated to woodland, and 2,931 acres woodland not anticipated to be cleared.



Basin: Big Creek  
 Reach: 4, Big Creek  
 State: Arkansas

TABLE V  
 REACH SUMMARY BY SOIL MAPPING UNITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Soil Unit	Acres	Future Without Project (Production in Dollars)		Net	Future With Project (Production in Dollars)		Net	Difference in Net Production
ZONE A - (not subject to flooding)								
7	4,080	297,882	241,556	56,326	476,756	391,007	85,749	29,423
9	30,405	1,675,412	1,339,825	335,587	3,209,913	2,715,142	494,771	159,134
10	12,577	350,695	298,229	52,466	1,193,911	1,022,652	171,259	118,793
Subtotal	47,062	1,323,989	1,879,610	444,379	4,880,580	4,128,801	751,779	307,400
ZONE B - (subject to flooding)								
7	779	31,948	24,900	7,048	79,139	63,478	15,661	8,613
8	4,229	63,840	46,437	17,403	339,566	271,353	68,213	50,810
9	5,288	263,382	214,054	49,328	524,042	428,812	95,230	45,902
9S	185	7,013	4,978	2,035	11,673	8,382	3,291	1,256
10	4,314	107,689	83,175	24,514	302,828	241,051	61,777	37,263
Subtotal	14,795	473,872	373,544	100,328	1,257,248	1,013,076	244,172	143,844
TOTAL	61,857	2,797,861	2,253,154	544,707	6,137,828	5,141,877	995,951	451,244

1/ Zone A reduced by 641 acres urban, 18 acres watered, 8,749 acres woodland not anticipated to be cleared, and 30,413 acres lands already drained or not requiring drainage.  
 2/ Zone B reduced by 140 acres watered, 520 acres dedicated to woodland, and 2,931 acres woodland not anticipated to be cleared.



Basin: Big Creek  
 Reach: L, Big Creek  
 State: Arkansas

TABLE VI  
 LAND CONVERSIONS WITH PROJECT

(1)	(2)	(3)	(4)	(5)
Type of Conversion	<u>1/</u> : Total Amount	: Cost of Clearing	: Cost of Smoothing	: Total Cost
	: Acres	: Dollars	: Dollars	: Dollars
<u>Per Acre</u>	:	:	:	:
W to GC	: xx	: 60	: 10	: xx
W to IC	: xx	: 60	: 10	: xx
W to P	: xx	: 60	: xx	: xx
P to GC	: xx	: xx	: -	: xx
P to IC	: xx	: xx	: -	: xx
GC to IC	: xx	: xx	: xx	: xx
GC to P	: xx	: xx	: xx	: xx
	:	:	:	:
<u>Project</u>	:	:	:	:
W to GC	: 15,361	: 921,660	: 153,610	: 1,075,270
W to IC	: 2,899	: 173,940	: 28,990	: 202,930
W to P	: 2,134	: 128,040	: xx	: 128,040
P to GC	: -	: xx	: -	: -
P to IC	: -	: xx	: -	: -
GC to IC	: -	: xx	: xx	: -
GC to P	: -	: xx	: xx	: -
	:	:	:	:
Total project	: xx	: 1,223,640	: 182,600	: 1,406,240
	:	:	:	:
Annual amortized value <u>2/</u>	: xx	: xx	: xx	: 77,034
	:	:	:	:
Total annual cost of conversions	: xx	: xx	: xx	: 77,034
	:	:	:	:

1/ W-woodland; GC-general dry-farmed crops; IC-irrigated crops; (rice); P-pasture.

2/ Amortized over 50 years at 5 percent

Basin: Big Creek  
 Reach: 4, Big Creek  
 State: Arkansas

TABLE VII  
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

Zone	Soil mapping unit and land use	Area	Total Cost	Annual Equivalent Cost	Annual Maintenance Cost	Total Annual Cost
			1/ Installation	2/ Instl. Cost	3/ Cost	4/ Cost
A	7 - General crops	2,791	53,772	6,963	6,204	13,167
	7 - Rice	367	3,168	410	122	532
	7 - Pasture	514	7,897	1,023	304	1,327
	9 - General crops	24,629	327,541	42,417	37,793	80,210
	9 - Pasture	2,736	22,265	2,883	514	3,397
	10 - General crops	8,602	114,398	14,815	13,200	28,015
	10 - Rice	1,811	15,043	1,948	579	2,527
	10 - Pasture	906	7,526	975	239	1,214
	Subtotal	42,356 3/4	551,610	71,434	59,005	130,439

- 1/ Includes engineering and contingency  
 2/ Amortized at 5 percent over 10 years  
 3/ Does not include 10 percent "other" land

Basin: Big Creek  
 Reach: 4, Big Creek  
 State: Arkansas

TABLE VII  
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

Zone	Soil mapping unit and land use	Area Acres	Total Cost Installation	Annual Equivalent Instl. Cost	Annual Maintenance Cost	Total Annual Cost
			<u>1/</u> Dollars	<u>2/</u> Dollars	<u>2/</u> Dollars	<u>2/</u> Dollars
B	7 - General crops	370	7,128	923	822	1,745
	7 - Pasture	75	1,152	149	44	193
	8 - General crops	1,593	30,691	3,974	3,541	7,515
	8 - Rice	618	5,335	691	205	896
	8 - Pasture	243	3,733	483	144	627
	9 - General crops	2,224	29,577	3,830	3,413	7,243
	9 - Rice	577	4,980	645	192	837
	9 - Pasture	382	3,108	402	72	474
	10 - General crops	1,443	19,190	2,485	2,214	4,699
	10 - Rice	729	6,056	784	233	1,017
	10 - Pasture	383	3,181	412	122	534
	Subtotal	8,637	114,131	14,778	11,002	25,780
	TOTAL	50,993	665,741	86,212	70,007	156,219

- 1/ Includes engineering and contingency  
2/ Amortized at 5 percent over 10 years  
3/ Does not include 10 percent "other" land



Basin: Big Creek  
 Reach: 4, Big Creek  
 State: Arkansas

TABLE VIII  
 ANALYSIS OF GROUP DRAINAGE NEEDS AND COSTS

Item	Unit	Amount	Unit Cost	Total Cost
			Dollars	Dollars
Excavation <u>1/</u>				
Spreading spoil <u>1/</u>				
Clearing right-of-way <u>1/</u>	Cubic Yard	2,998,800	0.17	509,796
Right-of-way easements	Acres	528	15.00	7,920
Crossings	Each	137	500.00	68,500
Swinging water gaps	Each	176	40.00	7,040
Pipe drop structures	Each	117	200.00	23,400
Flap gates	Each	20	100.00	2,000
Vegetative plantings	Acres	264	8.00	2,112
Total construction cost	xx	xx	xx	620,768
Engineering cost	xx	xx	xx	62,077
Contingencies and legal	xx	xx	xx	62,077
Total installation cost				744,922
Annual equivalent - installation cost (amortized for 20 years at $3\frac{1}{2}$ percent)				52,413
Annual maintenance cost				31,003
Annual loss of production - right-of-way <u>2/</u>				1,597
Total annual cost of required group facilities				85,013

1/ These items included in excavation costs under normal contract procedures.

2/ Annual loss of production - right-of-way. 211 acres @ \$7.57 per acre.

Basin: Big Creek  
 Reach: 4, Big Creek  
 State: Arkansas

TABLE IX  
 SUMMARY OF ANNUAL NET PRODUCTION RETURNS  
 AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted
	Dollars	Amount
		Dollars
1. Net return with project	995,951	xx
2. Net return without project	544,707	xx
3. Gross benefit to project	451,244	249,520 <u>2/</u>
4. Farm drainage cost	xx	xx <u>2/</u>
a. Installation cost	86,212	xx
b. Maintenance cost	70,007	xx
c. Total	156,219	86,383
5. Group drainage cost	xx	xx <u>3/</u>
a. Installation cost	52,413	xx
b. Maintenance cost <u>1/</u>	32,600	xx
c. Total	85,013	63,753
6. Conversion cost	xx	xx <u>2/</u>
a. Installation cost total	77,034	42,579

1/ Includes loss of production, right-of-way

2/ Discounted at 5 percent to account for estimated 25 year lag to full installation, maintenance, and benefit accrual.

3/ Discounted at  $3\frac{1}{2}$  percent to account for estimated 15 year lag to full installation, maintenance, and benefit accrual.

Basin: Big Creek  
 Reach: 5, Big Creek  
 State: Arkansas

TABLE I  
 PRESENT LAND USE

Zone	Soil map- ping unit	Open (Acres)	Wooded (Acres)	Urban (Acres)	Watered (Acres)	Total (Acres)
Zone A	8	-	179	-	-	179
	9	10,068	4,655	-	-	14,723
	9S	1,775	6,355	-	-	8,130
	10	17,060	17,453	-	-	34,513
Subtotal - all soils		28,903	28,642	-	-	57,545
Urban		-	-	94	-	94
Watered		-	-	-	-	-
Total - Zone A		28,903	28,642	94	-	57,639
Zone B	8	2,010	1,984	-	-	3,994
	9	643	279	-	-	922
	9S	1,370	2,402	-	-	3,772
	10	355	1,633	-	-	1,988
Subtotal - all soils		4,378	6,298	-	-	10,676
Urban		-	-	-	-	-
Watered		-	-	-	76	76
Total - Zone B		4,378	6,298	-	76	10,752
No Zone C						
GRAND TOTAL- Reach 5		33,281	34,940	94	76	68,391



Basin: Big Creek  
 Reach: 5, Big Creek  
 State: Arkansas

SUMMARY -- TABLE II A  
 ZONE FOR DRAINAGE CALCULATIONS ONLY  
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1) :	(2) :	(3) :	(4) :	(5) :	(6)
Soil :	Land use and crop :	<u>2/</u>	Production		
Unit :	distribution :	Acres	Unit	Per Acre	Total
All :	Open land	: 25,305	:	:	:
:	Crops	: 22,774	:	:	3/ :
:	Cotton	: 3,791	: Lbs. Lint:	281	: 1,066,335
:	Cottonseed	: (3,791)	: Ton :	.2532	: 959.70
:	Corn	: 882	: Bu. :	25	: 22,050
:	Rice	: 4,430	: Cwt. :	24	: 106,320
:	Soybeans	: 4,562	: Bu. :	14	: 61,688
:	Oats (Grain)	: 1,998	: Bu. :	22	: 44,370
:	Oats (Sup. Past.)	: (1,998)	: Lbs. Beef:	62	: 123,120
:	Grain Sorghum	: 1,837	: Bu. :	15	: 27,996
:	Perm. Pasture	: 3,034	: Lbs. Beef:	180	: 546,120
:	Idle	: 2,240	:	:	:
:	Other <u>1/</u>	: 2,531	:	:	:
:	Woodland	: 22,287	: Acres :	:	:
:	TOTAL	: 47,592 <u>4/</u>	:	:	:
:		:	:	:	:

- 1/ Farmsteads, farm roads, waste and non-agricultural  
2/ Parenthetical amounts are duplicated acreages.  
3/ Calculated from Columns 3 and 6; rounded to nearest unit.  
4/ Total area Zone A reduced by 94 acres urban area, and 9,953 acres already drained or not requiring drainage.

SUMMARY - TABLE III A  
ZONE FOR DRAINAGE CALCULATIONS ONLY  
COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION  
PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil Unit	Land use and crop distribution	Acres	Unit	Production Per Acre	Total	Value of production Per Unit	Cost of production Total	Cost of production Per Acre	production Net Total	Return
ALL	Open land	18,833								
	Crops	16,950								
	Cotton	4,087	Lbs. Lint	31 3/4	1,269,970	.25	317,492	86 1/4	353,189	36,310
	Cottonseed	(4,087)	Ton	.2797	1,142.97	63.00	72,007			
	Rice	4,237	Cwt.	25	105,925	3.75	397,219	87.64	371,331	25,888
	Soybeans	3,736	Bu.	16	59,552	2.30	136,970	22.55	84,265	52,705
	Oats (Grain)	1,097	Bu.	23	25,368	.90	22,831	16.13	17,690	5,145
	Oats (Sup. Past.)	(1,097)	Lbs. Beef	63	69,400	.2005	13,915	4.64	5,090	8,825
	Grain Sorghum	259	Bu.	20	5,180	1.53	7,925	19.04	4,931	2,994
	Perm. Pasture	2,243	Lbs. Beef	202	453,755	.2005	90,978	28.60	64,146	26,832
	Idle	1,291								
	Other 1/	1,883								
	Woodland	11,392	Acres			8.50	96,832	4.12	46,935	49,897
	TOTAL	30,225 5/8	Acres				1,156,169		947,577	208,592

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent.
- 5/ Total area Zone A reduced by 94 acres urban area and 27,320 acres of lands already drained, not requiring drainage, or not anticipated to be cleared.



Basin: Big Creek  
 Reach: 5, Big Creek  
 State: Arkansas

SUMMARY - TABLE IV A  
 ZONE FOR DRAINAGE CALCULATIONS ONLY, COMPUTATION  
 OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION, PRODUCTION COSTS  
 AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT  
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil Unit	Land use and crop distribution	Acres	Unit	Production Per Acre	Total	Value of production Per Unit	Total	Cost of production Per Acre	Total	Net Return
All	Open land	30,225								
	Crops	27,203								
	Cotton	6,669	Lbs. Lint	531 <sup>3/</sup>	3,538,905	.25	884,726	147.21	981,720	103,662
	Cottonseed	(6,669)	Ton	4776	3,185.01	63.00	200,656			
	Corn	438	Bu.	40	17,520	1.45	25,404	33.45	14,651	10,753
	Rice	6,722	Cwt.	35	235,270	3.75	882,262	111.17	747,285	134,977
	Soybeans	5,722	Bu.	21	117,774	2.30	270,880	26.72	152,868	118,012
	Oats (Grain)	1,475	Bu.	36	53,100	.90	47,790	22.17	32,701	15,089
	Oats (Sup. Past.)	(1,475)	Lbs. Beef	90	132,750	.2005	26,616	7.52	11,092	15,524
	Perm. Pasture	3,993	Lbs. Beef	340	1,357,620	.2005	272,203	46.05	183,877	88,326
	Idle	2,184								
	Other <sup>1/</sup>	3,022								
	Woodland	-	Acres							
	TOTAL	30,225 <sup>5/</sup>					2,610,537		2,124,194	486,343

- <sup>1/</sup> Farmsteads, farm roads, waste and non-agricultural
- <sup>2/</sup> Parenthetical amounts are duplicated acreages
- <sup>3/</sup> Calculated from Columns 3 and 6; rounded to nearest unit
- <sup>4/</sup> Calculated from Columns 3 and 10; rounded to nearest cent.
- <sup>5/</sup> Total area Zone A reduced by 94 acres urban area and 27,320 acres of lands already drained, not requiring drainage, or not anticipated to be cleared.



Basin: Big Creek  
 Reach: 5, Big Creek  
 State: Arkansas

SUMMARY - TABLE II B  
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS  
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1) :	(2)	:	(3)	:	(4)	:	(5)	:	(6)
Soil :	Land use and crop	:	<u>2/</u>	:	Production				
Unit :	distribution	:	Acres	:	Unit	:	Per Acre	:	Total
All :	Open land	:	4,378	:	:	:	:	:	:
:	Crops	:	3,941	:	:	:	<u>3/</u>	:	:
:	Cotton	:	756	:	Lbs.Lint:	:	278	:	210,010
:	Cottonseed	:	(756)	:	Ton	:	.2500	:	189.01
:	Corn	:	562	:	Bu.	:	22	:	12,104
:	Rice	:	248	:	Cwt.	:	26	:	6,535
:	Soybeans	:	275	:	Bu.	:	16	:	4,400
:	Oats (Grain)	:	481	:	Bu.	:	23	:	11,198
:	Oats (Sup. Past.)	:	(300)	:	Lbs.Beef:	:	84	:	25,200
:	Grain Sorghum	:	32	:	Bu.	:	17	:	544
:	Perm. Pasture	:	949	:	Lbs.Beef:	:	198	:	187,855
:	Idle	:	638	:	:	:	:	:	:
:	Other <u>1/</u>	:	437	:	:	:	:	:	:
:	Woodland	:	6,298	:	Acres	:	:	:	:
:	TOTAL	:	10,676 <u>4/</u>	:	:	:	:	:	:

1/ Farmsteads, farm roads, waste and non-agricultural

2/ Parenthetical amounts are duplicated acreages

3/ Calculated from Columns 3 and 6; rounded to nearest unit.

4/ Total area Zone B reduced by 76 acres watered area.

Basin: Big Creek  
 Reach: 5, Big Creek  
 State: Arkansas

SUMMARY - TABLE III B  
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS  
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION  
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT  
 (Based on projected prices)

(1) Soil Unit	(2) Land use and crop distribution	(3) Acres	(4) Unit	(5) Production Per Acre	(6) Total	(7) Value of production Per Unit	(8) Total	(9) Cost of production Per Acre	(10) Total	(11) Net Return
ALL	Open land	4,576								
	Crops	4,118								
	Cotton	812	Lbs. Lint	34 3/8	282,875	.25	70,718	4 1/2	94,577	76,792
	Cottonseed	(812)	Ton	3135	254,58	63.00	16,039			9,955
	Corn	545	Bu.	26	14,327	1.45	20,774	23.66	12,897	7,877
	Rice	341	Cwt.	27	9,115	3.75	34,181	92.20	31,441	2,740
	Soybeans	341	Bu.	20	6,870	2.30	15,802	26.19	8,932	6,870
	Oats (Grain)	511	Bu.	30	15,426	.90	13,883	19.40	9,915	3,968
	Oats (Sup. Past.)	(327)	Lbs. Beef	113	36,860	.2005	7,390	9.96	3,256	4,134
	Grain Sorghum	39	Bu.	19	741	1.53	1,134	18.42	718	416
	Perm. Pasture	959	Lbs. Beef	277	265,925	.2005	53,317	38.37	36,795	16,522
	Idle	570								
	Other 1/	458								
	Woodland	4,510	Acres			8.50	38,334	4.12	18,581	19,753
	TOTAL	9,086 5/8					271,572		199,327	72,245

1/ Farmsteads, farm roads, waste and non-agricultural  
 2/ Parenthetical amounts are duplicated acreages  
 3/ Calculated from Columns 3 and 6; rounded to nearest unit  
 4/ Calculated from Columns 3 and 10; rounded to nearest cent  
 5/ Total area Zone B reduced by 76 acres watered area and 1,590 acres of woodland  
 not anticipated to be cleared.



Basin: Big Creek  
 Reach: 5, Big Creek  
 State: Arkansas

SUMMARY - TABLE IV B  
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS  
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION  
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT  
 (Based on projected prices)

(1) Soil Unit	(2) Land use and crop distribution	(3) Acres	(4) Unit	(5) Production Per Acre	(6) Total	(7) Value of production Per Unit	(8) Total	(9) Cost of production Per Acre	Net Return
ALL	Open land	9,086							
	Crops	8,178							
	Cotton	1,969	Lbs. Lint	436 <sup>3/</sup>	859,310	.25	214,826	115.15 <sup>4/</sup>	226,740
	Cottonseed	(1,969)	Ton	3928	773,37	63.00	48,722		36,808
	Corn	359	Bu.	35	12,560	1.45	18,212	29.18	10,474
	Rice	1,201	Cwt.	32	38,432	3.75	144,120	104.43	125,420
	Soybeans	1,434	Bu.	21	30,384	2.30	69,883	26.97	38,677
	Oats (Grain)	1,114	Bu.	35	39,122	.90	35,210	21.73	24,209
	Oats (Sup. Past.)	(1,114)	Lbs. Beef	112	125,160	.2005	25,094	9.92	11,050
	Perm. Pasture	1,554	Lbs. Beef	331	514,930	.2005	103,244	44.99	69,918
	Idle	547							
	Other <u>1/</u>	908							
	Woodland	-	Acres						
	TOTAL	9,086 <sup>5/</sup>					659,311		506,488
									152,823

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent.
- 5/ Total area Zone B reduced by 76 acres watered and 1,590 acres woodland not anticipated to be cleared.



Basin: Big Creek  
 Reach: 5, Big Creek  
 State: Arkansas

TABLE V  
 REACH SUMMARY BY SOIL MAPPING UNITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Soil Unit	Acres	Gross	Future Without Project (Production in Dollars)	Cost	Net	Future With Project (Production in Dollars)	Cost	Net
ZONE A -- (not subject to flooding)								
9	9,744	511,370	422,096	89,274	949,667	786,222	163,445	74,171
10	20,481	644,799	525,481	119,318	1,660,870	1,337,972	322,898	203,580
Subtotal	30,225 1/2	1,156,169	947,577	208,592	2,610,537	2,124,194	486,343	277,751
ZONE B -- (subject to flooding)								
8	3,508	98,322	77,265	21,057	275,463	215,701	59,762	38,705
9	872	39,916	29,905	10,011	71,964	57,869	14,095	4,084
9S	3,183	101,305	69,567	31,738	209,101	151,932	57,169	25,431
10	1,523	32,029	22,590	9,439	102,783	80,986	21,797	12,358
Subtotal	9,086 2/3	271,572	199,327	72,245	659,311	506,488	152,823	80,578
TOTAL	39,311	1,427,741	1,146,904	280,837	3,269,848	2,630,682	639,166	358,329

- 1/ Total area Zone A reduced by 94 acres urban area and 27,320 acres of lands already drained, not requiring drainage, or not anticipated to be cleared.
- 2/ Total area Zone B reduced by 76 acres watered area and 1,590 acres of woodlands not anticipated to be cleared.

Basin: Big Creek  
 Reach: 5, Big Creek  
 State: Arkansas

TABLE VI  
 LAND CONVERSION WITH PROJECT

(1)	(2)	(3)	(4)	(5)
Type of Conversion <u>1/</u>	Total Amount	Cost of Clearing	Cost of Smoothing	Total Cost
	<u>Acres</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>
<u>Per Acre</u>				
W to GC	xx	60	10	xx
W to IC	xx	60	10	xx
W to P	xx	60	xx	xx
P to GC	xx	xx	-	xx
P to IC	xx	xx	-	xx
GC to IC	xx	xx	xx	xx
GC to P	xx	xx	xx	xx
<u>Project</u>				
W to GC	10,067	604,020	100,670	704,690
W to IC	3,345	200,700	33,450	234,150
W to P	2,490	149,400	xx	149,400
P to GC	145	xx	-	-
P to IC	-	xx	-	-
GC to IC	-	xx	xx	-
GC to P	-	xx	xx	-
Total project	xx	954,120	134,120	1,088,240
Annual amortized value <u>2/</u>	xx	xx	xx	59,614
Total annual cost of conversions	xx	xx	xx	59,614

1/ W-woodland; GC-general dry-farmed crops; IC-irrigated crops; (rice); P-pasture.

2/ Amortized over 50 years at 5 percent.



Basin: Big Creek  
 Reach: 5, Big Creek  
 State: Arkansas

TABLE VII  
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

Zone	Soil mapping unit and land use	Area	Total Cost Installation	Annual Equivalent Cost	Annual Maintenance Cost	Total Annual Cost
		<u>Acres</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>
A	9 - General crops	5,613	74,647	9,667	8,613	18,280
	9 - Rice	1,929	16,652	2,156	640	2,796
	9 - Pasture	1,228	9,993	1,294	231	1,525
	10 - General crops	10,875	144,626	18,729	16,688	35,417
	10 - Rice	4,793	39,815	5,156	1,531	6,687
	10 - Pasture	2,765	22,969	2,974	883	3,857
	Subtotal	27,203 <u>3/</u>	308,702	39,976	28,586	68,562
	8 - General crops	1,323	25,489	3,301	2,941	6,242
	8 - Rice	535	4,617	598	178	776
	8 - Pasture	162	2,489	322	96	418
B	9 - General crops	321	4,269	553	493	1,046
	9 - Rice	79	682	88	26	114
	9 - Pasture	118	961	124	22	146
	10 - General crops	520	6,916	896	798	1,694
	10 - Rice	186	1,546	200	59	259
	10 - Pasture	133	1,105	143	42	185
	Subtotal	3,377 <u>3/</u>	48,074	6,225	4,655	10,880
	TOTAL	30,580 <u>3/</u>	356,776	46,201	33,241	79,442

1/ Includes engineering and contingency  
2/ Amortized at 5 percent over 10 years

3/ Does not include 10 percent "other" land



Basin: Big Creek  
 Reach: 5, Big Creek  
 State: Arkansas

TABLE VIII  
 ANALYSIS OF GROUP DRAINAGE NEEDS AND COSTS

Item	Unit	Amount	Unit Cost	Total Cost
			Dollars	Dollars
Excavation <u>1/</u>				
Spreading spoil <u>1/</u>				
Clearing right-of-way <u>1/</u>	Cubic Yard	1,712,722	0.18	308,290
Right-of-way easements	Acres	502	15.00	7,530
Crossings	Each	84	500.00	42,000
Swinging water gaps	Each	107	40.00	4,280
Pipe drop structures	Each	107	200.00	21,400
Flap gates	Each	10	100.00	1,000
Vegetative plantings	Acres	100	8.00	800
Total construction cost	xx	xx	xx	385,300
Engineering cost	xx	xx	xx	38,530
Contingencies and legal	xx	xx	xx	38,530
Total installation cost				462,360
Annual equivalent - installation cost (amortized for 20 years at 3½ percent)				32,532
Annual maintenance cost				19,265
Annual loss of production - right-of-way <u>2/</u>				1,698
Total annual cost of required group facilities				53,495

1/ These items included in excavation costs under normal contract procedures.

2/ Annual loss of production - right-of-way. 201 acres @ \$8.45 per acre.

Basin: Big Creek  
 Reach: 5, Big Creek  
 State: Arkansas

TABLE IX  
 SUMMARY OF ANNUAL NET PRODUCTION RETURNS  
 AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted amount
	Dollars	Dollars
1. Net return with project	639,166	xx
2. Net return without project	280,837	xx
3. Gross benefit to project	358,329	198,142 <u>2/</u>
4. Farm drainage cost	xx	xx <u>2/</u>
a. Installation cost	46,201	xx
b. Maintenance cost	33,241	xx
c. Total	79,442	43,928
5. Group drainage cost	xx	xx <u>3/</u>
a. Installation cost	32,532	xx
b. Maintenance cost <u>1/</u>	20,963	xx
c. Total	53,495	40,117
6. Conversion cost	xx	xx <u>2/</u>
a. Installation cost total	59,614	32,964

1/ Includes loss of production, right-of-way

2/ Discounted at 5 percent to account for estimated 25 year lag to full installation, maintenance, and benefit accrual.

3/ Discounted at 3½ percent to account for estimated 15 year lag to full installation, maintenance, and benefit accrual.

Basin: Big Creek  
 Project: Lick Creek  
 State: Arkansas

TABLE I  
 PRESENT LAND USE

Zone	Soil map- ping unit	Open (Acres)	Wooded (Acres)	Urban (Acres)	Watered (Acres)	Total (Acres)
Zone A	4	2,132	509	-	-	2,641
	7	1,110	1,035	-	-	2,145
	9	36,098	5,827	-	-	41,925
	9S	21,142	896	-	-	22,038
	15S	2,730	3,132	-	-	5,862
Subtotal - all soils		63,212	11,399	-	-	74,611
Urban		-	-	736	-	736
Watered		-	-	-	-	-
Total - Zone A		63,212	11,399	736	-	75,347
Zone B	7	1,772	2,310	-	-	4,082
	8	20	151	-	-	171
	9	458	159	-	-	617
	9S	169	17	-	-	186
Subtotal - all soils		2,419	2,637	-	-	5,056
Urban		-	-	-	-	-
Watered		-	-	-	57	57
Total - Zone B		2,419	2,637	-	57	5,113
No Zone C		-	-	-	-	-
GRAND TOTAL - Project		65,631	14,036	736	57	80,460



Basin: Big Creek  
 Project: Lick Creek  
 State: Arkansas

SUMMARY - TABLE II A  
 ZONE FOR DRAINAGE CALCULATIONS ONLY  
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1) :	(2)	(3)	(4)	(5)	(6)
Soil :	Land use and Crop:	<u>2/</u>	Production		
Unit :	distribution	Acres	Unit	Per Acre:	Total
:	:	:	:	:	:
All :	Open land	: 35,498	:	:	:
:	Crops	: 31,948	:	:	:
:	Cotton	: 16,939	: Lbs.Lint:	<u>3/</u> 316	: 5,345,990
:	Cottonseed	: (16,939)	: Ton	: .2840	: 4,811.39
:	Corn	: 4,978	: Bu.	: 26	: 128,665
:	Soybeans	: 2,468	: Bu.	: 16	: 40,048
:	Oats (Grain)	: 2,428	: Bu.	: 25	: 61,100
:	Oats (Sup.Past.)	: (2,348)	: Lbs.Beef:	70	: 164,360
:	Grain Sorghum	: 90	: Bu.	: 19	: 1,710
:	Perm. Pasture	: 3,447	: Lbs.Beef:	180	: 620,460
:	Idle	: 1,598	:	:	:
:	Other <u>1/</u>	: 3,550	:	:	:
:	Woodland	: 7,371	: Acres	:	:
:	TOTAL	: 42,869 <u>4/</u>	:	:	:
:	:	:	:	:	:

- 1/ Farmsteads, farm roads, waste and non-agricultural  
2/ Parenthetical amounts are duplicated acreages  
3/ Calculated from Columns 3 and 6; rounded to nearest unit  
4/ Total area Zone A reduced by 736 acres urban area, 27,900 acres not requiring drainage and 3,842 acres already drained.

Basin: Big Creek  
 Project: Jack Creek  
 State: Arkansas

SUMMARY - TABLE III A  
 ZONE FOR DRAINAGE CALCULATIONS ONLY  
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION, PRODUCTION  
 COSTS AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT  
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil Unit	Land use and Crop	Acres	Unit	Production	Value of production	Cost of production	Net	Return		
				Per Acre	Total	Per Unit	Total	Per Acre	Total	Return
						Dollars	Dollars	Dollars	Dollars	Dollars
All	Open land	25,158								
	Crops	22,643								
	Cotton	11,964	Lbs. Lint	357	4,266,130	25.11	241,890	95.66	1,144,451	163,971
	Cottonseed	(11,964)	Ton	3209	3,839.51	63.00	157,844	26.40	93,381	64,463
	Corn	3,537	Bu.	31	108,858	1.45	58,933	28.05	31,888	27,045
	Soybeans	1,137	Bu.	23	25,623	2.30	58,973	19.37	42,043	16,930
	Oats (Grain)	2,170	Bu.	30	65,526	.90	38,950	7.56	16,250	22,700
	Oats (Sup. Past.)	(2,150)	Lbs. Beef	90	194,265	2005	2,006	20.90	1,191	815
	Grain Sorghum	57	Bu.	23	1,311	1.53	124,488	33.14	87,713	36,775
	Perm. Pasture	2,647	Lbs. Beef	235	620,890	2005	2,006	20.90	1,191	815
	Idle	1,131								
	Other 1/	2,515								
	Woodland	4,701	Acres			5.13	24,116	3.10	14,573	9,543
	TOTAL	29,859 5/					1,773,732		1,431,490	342,242

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages.
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Total area Zone A reduced by 736 acres urban area, 2,670 acres of woodland not anticipated to be cleared, and 42,082 acres already drained or not requiring drainage.



Basin: Big Creek  
 Project: Lick Creek  
 State: Arkansas

SUMMARY - TABLE IV. A  
 ZONE FOR DRAINAGE CALCULATIONS ONLY, COMPUTATION  
 OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION,  
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT  
 (Based on projected prices)

(1) Soil Unit	(2) Land use and Crop distribution	(3) Acres	(4) Unit	(5) Production Per Acre	(6) Total	(7) Value of production Per Unit	(8) Total	(9) Cost of production Per Acre	(10) Total	(11) Net Return
ALL	Open land	29,859								
	Crops	26,873								
	Cotton	14,696	Lbs. Lint	3/555	8,154,010	25	2,038,502	4/152.62	2,242,904	257,930
	Cottonseed	14,696	Ton	4994	7,338.60	63.00	462,332			
	Corn	2,834	Bu.	41	116,645	1.45	169,135	34.52	97,839	71,296
	Soybeans	2,162	Bu.	23	48,999	2.30	112,698	28.14	60,849	51,849
	Oats (Grain)	3,074	Bu.	40	124,350	.90	111,915	24.56	75,503	36,412
	Oats (Sup. Past.)	(1,470)	Lbs. Beef	127	186,200	.2005	37,333	11.46	16,845	20,488
	Grain Sorghum	104	Bu.	23	2,392	1.53	3,660	20.90	2,174	1,486
	Perm. Pasture	2,660	Lbs. Beef	409	1,087,390	.2005	218,021	60.18	160,085	57,936
	Idle	1,343								
	Other	2,986								
	Woodland	-	Acres							
	TOTAL	29,859 5/					3,153,596		2,656,199	497,397

- 1/ Farmsteads, farm roads, waste and non-agricultural.
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit.
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent.
- 5/ Total area Zone A reduced by 736 acres urban area, 2,670 acres of woodland not anticipated to be cleared, and 42,082 acres already drained or not requiring drainage.



Basin: Big Creek  
 Project: Lick Creek  
 State: Arkansas

SUMMARY - TABLE II B  
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS  
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1) :	(2) :	(3) :	(4) :	(5) :	(6)
Soil :	Land use and Crop:	<u>2/</u> :	Production		
Unit :	distribution :	Acres	Unit	Per Acre:	Total
All :	Open land	: 2,419	:	:	:
:	Crops	: 2,177	:	:	<u>3/</u> :
:	Cotton	: 1,173	: Lbs. Lint:	340	: 398,910
:	Cottonseed	: (1,173)	: Ton	: .3061	: 359.02
:	Corn	: 226	: Bu.	: 35	: 7,810
:	Soybeans	: 109	: Bu.	: 18	: 2,004
:	Oats (Grain)	: 62	: Bu.	: 25	: 1,550
:	Oats (Sup. Past.)	: (62)	: Lbs. Beef:	77	: 4,760
:	Grain Sorghum	: 145	: Bu.	: 19	: 2,755
:	Perm. Pasture	: 352	: Lbs. Beef:	181	: 63,795
:	Idle	: 110	:	:	:
:	Other <u>1/</u>	: 242	:	:	:
:	Woodland	: 2,637	: Acre	:	:
:	TOTAL	: 5,056 <u>4/</u>	:	:	:
:	:	:	:	:	:

- 1/ Farmsteads, farm roads, waste and non-agricultural  
2/ Parenthetical amounts are duplicated acreages  
3/ Calculated from Columns 3 and 6; rounded to nearest unit  
4/ Total area Zone B reduced by 57 acres watered area.

Basin: Big Creek  
 Project: Lick Creek  
 State: Arkansas

SUMMARY - TABLE III B  
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS  
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION  
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT  
 (Based on projected prices)

(1) Unit	(2) Land use and Crop distribution	(3) Acres	(4) Unit	(5) Production Per Acre	(6) Total	(7) Value of production Per Unit	(8) Total	(9) Cost of production Per Acre	(10) Total	(11) Net Return
All	Open land	2,448								
	Crops	2,203								
	Cotton	1,192								
	Cottonseed	(1,192)								
	Corn	228								
	Soybeans	103								
	Oats (Grain)	65								
	Oats (Sup.Past.)	(65)								
	Grain Sorghum	147								
	Perm. Pasture	357								
	Idle	111								
	Other <u>1/</u>	245								
	Woodland	2,101								
	TOTAL	4,549 <u>5/</u>								

- 1/ Farmsteads, farm roads, waste and non-agricultural.
- 2/ Parenthetical amounts are duplicated acreages.
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit.
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent.
- 5/ Total area Zone B reduced by 57 acres watered area and 507 acres woodland not anticipated to be cleared.



asin: Big Creek  
 roject: Tick Creek  
 ate: Arkansas

SUMMARY - TABLE IV B  
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS  
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION,  
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT  
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and Crop	2/ Acres	Unit	Production	Value of production	Cost of production	Net			
Unit	distribution	Acres	Per Acre	Total	Per Unit	Total	Per Acre	Total	Return	
All	Open land	4,549								
	Crops	4,094								
	Cotton	2,391								
	Cottonseed	(2,391)								
	Corn	246								
	Soybeans	369								
	Oats (Grain)	91								
	Oats (Sup.Past.)	(76)								
	Grain Sorghum	136								
	Perm. Pasture	657								
	Idle	204								
	Other 1/	455								
	Woodland	-								
	TOTAL	4,549 5/								

1/ Farmsteads, farm roads, waste and non-agricultural  
 2/ Parenthetical amounts are duplicated acreages  
 3/ Calculated from Columns 3 and 6; rounded to nearest unit  
 4/ Calculated from Columns 3 and 10; rounded to nearest cent  
 5/ Total area Zone B reduced by 57 acres watered area and 507 acres  
 woodland not anticipated to be cleared.



Basin: Big Creek  
 Project: Hick Creek  
 State: Arkansas

TABLE V  
 PROJECT AREA SUMMARY BY SOIL MAPPING UNITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Soil			Future without project (Production in Dollars)		Future with project (Production in Dollars)			
Unit	Acres	Gross	Cost	Net	Gross	Cost	Net	Difference in Net Production
ZONE A - (not subject to flooding)								
4	1,402	108,009	86,280	21,729	189,774	151,650	38,124	16,395
7	1,281	61,841	49,413	12,428	139,136	111,643	27,493	15,065
9	27,176	1,603,882	1,295,797	308,085	2,824,686	2,392,906	431,780	123,695
Subtotal	29,859	1,773,732	1,431,490	342,242	3,153,596	2,656,199	497,397	155,155
ZONE B - (subject to flooding)								
7	3,766	153,523	121,319	32,204	389,467	312,801	76,666	44,462
9	601	32,042	25,824	6,218	56,493	46,865	9,628	3,410
9S	182	12,799	9,716	3,083	13,740	10,455	3,285	202
Subtotal	4,549	198,364	156,859	41,505	459,700	370,121	89,579	48,074
TOTAL	34,408	1,972,096	1,588,349	383,747	3,613,296	3,026,320	586,976	203,229

1/ Zone A reduced by 736 acres urban, 2,670 acres woodland not to be cleared, and 42,082 acres of lands already drained or not requiring drainage.  
2/ Zone B reduced by 57 acres watered, and 507 acres woodland not to be cleared.

Basin: Big Creek

Project: Lick Creek

State: Arkansas

TABLE VI  
LAND CONVERSIONS WITH PROJECT

(1)	(2)	(3)	(4)	(5)
Type of Conversion <sup>1/</sup>	Total Amount	Cost of Clearing	Cost of Smoothing	Total Cost
	Acres	Dollars	Dollars	Dollars
<u>Per Acre</u>				
W to GC	xx	60	10	xx
W to IC	xx	-	-	xx
W to P	xx	60	xx	xx
P to GC	xx	xx	-	xx
P to IC	xx	xx	-	xx
GC to IC	xx	xx	xx	xx
GC to P	xx	xx	xx	xx
<u>Project</u>				
W to GC	6,414	384,840	64,140	448,980
W to IC	-	-	-	-
W to P	388	23,280	xx	23,280
P to GC	75	xx	-	-
P to IC	-	xx	-	-
GC to IC	-	xx	xx	-
GC to P	-	xx	xx	-
Total project	xx	408,120	64,140	472,260
Annual amortized value <sup>2/</sup>	xx	xx	xx	25,870
Total annual cost of conversions	xx	xx	xx	25,870

<sup>1/</sup> W-woodland; GC-general dry-farmed crops; IC-irrigated crops; (rice); P-pasture

<sup>2/</sup> Amortized over 50 years at 5 percent.

Basin: Big Creek  
 Project: Iick Creek  
 State: Arkansas

TABLE VII  
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

Zone	Soil mapping unit and land use	Area Acres	Total Cost Installation 1/	Annual Equivalent Instl. Cost 2/	Annual Maintenance Cost	Total Annual Cost
A	4 - General crops	1,186	15,773	2,043	1,820	3,863
	4 - Pasture	76	619	80	14	94
	7 - General crops	1,015	19,554	2,532	2,256	4,788
	7 - Pasture	138	2,120	275	82	357
	9 - General crops	22,012	292,738	37,910	33,777	71,687
B	9 - Pasture	2,446	19,905	2,578	459	3,037
	Subtotal	26,873 3/	350,709	45,418	38,408	83,826
	7 - General crops	1,969	37,935	4,913	4,377	9,290
	7 - Pasture	403	6,192	802	238	1,040
	9 - General crops	341	4,535	587	523	1,110
	9 - Pasture	38	310	40	7	47
	Subtotal	2,751 3/	48,972	6,342	5,145	11,487
	TOTAL	29,624 3/	399,681	51,760	43,553	95,313

1/ Includes engineering and contingency  
 2/ Amortized at 5 percent over 50 years  
 3/ Does not include 10 percent "other" land.



Basin: Big Creek  
 Project: Lick Creek  
 State: Arkansas

TABLE VIII  
 ANALYSIS OF GROUP DRAINAGE NEEDS AND COSTS

Item	Unit	Amount	Unit Cost	Total Cost
			Dollars	Dollars
Excavation <u>1/</u>				
Spreading spoil <u>1/</u>				
Clearing right-of-way <u>1/</u>	Cu.Yd.	1,300,000	.18	234,000
Right-of-way easements	Acres	196	20.00	3,920
Crossings	Each	66	500.00	33,000
Swinging water gaps	Each	87	50.00	4,350
Pipe drop structures	Each	87	200.00	17,400
Flap gates	Each	25	100.00	2,500
Vegetative plantings	Acres	131	8.00	1,048
Total construction cost	xx	xx	xx	296,218
Engineering cost	xx	xx	xx	29,622
Contingencies and legal	xx	xx	xx	29,622
Total installation cost				355,462
Annual equivalent - installation cost (amortized for 20 years at $3\frac{1}{2}$ percent)				25,010
Annual maintenance cost				14,811
Loss of production, right-of-way <u>2/</u>				523
Total annual cost of required group facilities				40,344

1/ These items included in excavation costs under normal contract procedures.

2/ Annual loss in income on 78 acres right-of-way at \$6.71 per acre.

Basin: Big Creek  
 Project: Lick Creek  
 State: Arkansas

TABLE IX  
 SUMMARY OF ANNUAL NET PRODUCTION RETURNS  
 AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted
	Dollars	Dollars
1. Net return with project	586,976	xx
2. Net return without project	383,747	xx
3. Gross benefit to project	203,229	112,378 <u>2/</u>
4. Farm drainage cost	xx	xx <u>2/</u>
a. Installation cost	51,760	xx
b. Maintenance cost	43,553	xx
c. Total	95,313	52,704
5. Group drainage cost	xx	xx <u>3/</u>
a. Installation cost	25,010	xx
b. Maintenance cost <u>1/</u>	15,334	xx
c. Total	40,344	30,255
6. Conversion cost	xx	xx <u>2/</u>
a. Installation cost total	25,870	14,305

1/ Includes loss of production, right-of-way

2/ Discounted at 5 percent to account for estimated 25 year lag to full installation, maintenance, and benefit accrual.

3/ Discounted at  $3\frac{1}{2}$  percent to account for estimated 15 year lag to full installation, maintenance, and benefit accrual.

Basin: Big Creek  
 Project: Flat Fork  
 State: Arkansas

TABLE I  
 PRESENT LAND USE

Zone	: Soil map : ping unit	: Open : (Acres)	: Wooded : (Acres)	: Watered : (Acres)	: Urban : (Acres)	: Total : (Acres)
Zone A	: 4	: 424	: 0	: -	: -	: 424
	: 8	: 300	: 1,629	: -	: -	: 1,929
	: 9	: 6,352	: 2,694	: -	: -	: 9,046
	: 9S	: 7,316	: 1,190	: -	: -	: 8,506
	: 10	: 17,318	: 5,073	: -	: -	: 22,391
Subtotal - all soils		: 31,710	: 10,586	: -	: -	: 42,296
Watered	: -	: -	: -	: -	: -	: -
Urban	: -	: -	: -	: -	: 264	: 264
Total - Zone A		: 31,710	: 10,586	: -	: 264	: 42,560
Zone B	: 8	: 844	: 2,945	: -	: -	: 3,789
	: 9	: 698	: 277	: -	: -	: 975
	: 9S	: 345	: 173	: -	: -	: 518
	: 10	: 961	: 1,021	: -	: -	: 1,982
Subtotal - all soils		: 2,848	: 4,416	: -	: -	: 7,264
Watered	: -	: -	: -	: 58	: -	: 58
Urban	: -	: -	: -	: -	: -	: -
Total - Zone B		: 2,848	: 4,416	: 58	: -	: 7,322
No. Zone C	: :	: :	: :	: :	: :	: :
GRAND TOTAL - Project		: 34,558	: 15,002	: 58	: 264	: 49,882



Basin: Big Creek  
 Project: Flat Fork  
 State: Arkansas

SUMMARY - TABLE II A  
 ZONE FOR DRAINAGE CALCULATIONS ONLY  
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1) :	(2)	:	(3)	:	(4)	:	(5)	:	(6)
Soil :	Land use and crop	:	<u>2/</u>	:	Production				
Unit :	distribution	:	Acres	:	Unit	:	Per Acre:	:	Total
:	:	:	:	:	:	:	:	:	:
All :	Open land	:	23,589	:	:	:	:	:	:
:	Crops	:	21,230	:	:	:	<u>3/</u>	:	:
:	Cotton	:	3,491	:	Lbs.Lint:	:	281	:	979,680
:	Cottonseed	:	(3,491)	:	Ton	:	.2526	:	881.71
:	Corn	:	466	:	Bu.	:	24	:	11,272
:	Rice	:	3,756	:	Cwt.	:	24	:	90,144
:	Soybeans	:	5,424	:	Bu.	:	14	:	74,571
:	Oats (Grain)	:	2,138	:	Bu.	:	20	:	42,706
:	Oats (Sup.Past)	:	(2,111)	:	Lbs.Beef:	:	55	:	116,105
:	Perm Pasture	:	3,152	:	Lbs.Beef:	:	180	:	567,360
:	Idle	:	2,803	:	:	:	:	:	:
:	Other <u>1/</u>	:	2,359	:	:	:	:	:	:
:	Woodland	:	9,396	:	Acres	:	:	:	:
:	TOTAL	:	32,985 <u>4/</u>	:	:	:	:	:	:
:	:	:	:	:	:	:	:	:	:

- 1/ Farmsteads, farm roads, waste and non-agricultural  
2/ Parenthetical amounts are duplicated acreages  
3/ Calculated from columns 3 and 6; rounded to nearest unit  
4/ Total area zone A reduced by 264 acres urban and  
 9,311 acres of lands already drained or not requiring  
 drainage.

Basin: Big Creek  
 Project: Flat Fork  
 State: Arkansas

SUMMARY - TABLE III A  
 ZONE FOR DRAINAGE CALCULATIONS ONLY  
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION  
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT  
 (Based on projected prices)

(1) Soil: Unit:	(2) Land use and crop distribution	(3) Acres	(4) Unit	(5) Production Per Acre	(6) Total	(7) Value of Production Per Unit	(8) Total	(9) Cost of Production Per Acre	(10) Total	(11) Net Return
All:	Open land	15,979								
:	Crops	14,381		3/				4/		
:	Cotton	3,517	Lbs. Lint	298	1,046,700	.25	261,674	83.81	294,761	26,261
:	Cottonseed	(3,517)	Ton	2678	942.03	63.00	59,348			
:	Corn	261	Bu.	29	7,620	1.45	11,049	25.31	6,607	4,442
:	Rice	2,993	Cwt.	25	74,825	3.75	280,593	87.64	262,306	18,287
:	Soybeans	2,993	Bu.	17	49,566	2.30	114,002	23.07	69,063	44,939
:	Oats (Grain)	976	Bu.	22	21,534	.90	19,381	15.63	15,259	4,122
:	Oats (Sup. Past.)	(934)	Lbs. Beef	59	55,570	.2005	11,141	4.23	3,954	7,187
:	Perm. Pasture	1,979	Lbs. Beef	196	387,125	.2005	77,618	27.67	54,757	22,861
:	Idle	1,662								
:	Other	1,598								
:	Woodland	5,436	Acres			6.33	34,410	3.88	21,092	13,318
:	TOTAL	21,415					869,216		727,799	141,417

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from Columns 3 and 6; rounded to nearest unit
- 4/ Calculated from Columns 3 and 10; rounded to nearest cent
- 5/ Total area zone A reduced by 264 acres urban and 20,881 acres already drained, not needing drainage, or not anticipated to be cleared



Basin: Big Creek  
Project: Flat Fork  
State: Arkansas

SUMMARY - TABLE IV A  
ZONE FOR DRAINAGE CALCULATIONS ONLY, COMPUTATION  
OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION,  
PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT  
(Based on projected prices)

(1) Soil: Unit:	(2) Land use and crop distribution	(3) Acres	(4) 2/ Unit	(5) Production Per Acre	(6) Total	(7) Value of production Per Unit	(8) Total	(9) Cost of production Per Acre	(10) Total	(11) Net Return
All:	Open land	21,415								
:	Crops	19,273		3/						
:	Cotton	4,586	Lbs. Lint	570	2,615,120	.25	653,780	158.65	727,558	74,500
:	Cottonseed	(4,586)	Ton	5132	2,353,61	63.00	148,278	-	-	-
:	Corn	389	Bu.	40	15,622	1.45	22,652	33.59	13,065	9,587
:	Rice	4,672	Cwt.	35	163,520	3.75	613,199	111.17	519,386	93,813
:	Soybeans	4,025	Bu.	21	84,426	2.30	194,180	26.97	108,552	85,628
:	Oats (Grain)	1,485	Bu.	37	54,417	.90	48,975	22.51	33,433	15,542
:	Oats (Sup. Past.)	(1,485)	Lbs. Beef	96	142,710	.2005	28,613	8.18	12,141	16,472
:	Perm. Pasture	2,775	Lbs. Beef	342	950,210	.2005	190,517	46.35	128,610	61,907
:	Idle	1,341								
:	Other	2,142								
:	Woodland									
:	TOTAL	21,415	5/ Acres				1,900,194		1,542,745	357,449

1/ Farmsteads, farm roads, waste and non-agricultural  
2/ Parenthetical amounts are duplicated acreages  
3/ Calculated from columns 3 and 6; rounded to nearest unit  
4/ Calculated from columns 3 and 10; rounded to nearest cent  
5/ Total area zone A reduced by 264 acres urban and 20,881 acres already drained, not  
needing drainage, or not anticipated to be cleared



Basin: Big Creek  
 Project: Flat Fork  
 State: Arkansas

SUMMARY - TABLE II B  
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS  
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1) :	(2) :	(3) :	(4) :	(5) :	(6)
Soil :	Land Use and Crop :	2/ :	Production		
Unit :	distribution	: Acres	Unit	: Per Acre:	Total
:	:	:	:	:	:
All :	Open land	: 2,848	:	:	:
:	Crops	: 2,564	:	3/ :	:
:	Cotton	: 435	: Lbs.Lint	: 295	: 128,270
:	Cottonseed	: (435)	: Ton	: .2654	: 115.43
:	Corn	: 218	: Bu.	: 26	: 5,580
:	Rice	: 310	: Cwt.	: 25	: 7,744
:	Soybeans	: 391	: Bu.	: 14	: 5,554
:	Oats (Grain)	: 287	: Bu.	: 23	: 6,646
:	Oats (Sup.Past)	: (287)	: Lbs.Beef	: 65	: 18,555
:	Perm. Pasture	: 511	: Lbs.Beef	: 209	: 106,825
:	Idle	: 412	:	:	:
:	Other 1/	: 284	:	:	:
:	Woodland	: 4,416	: Acres	:	:
:	TOTAL	: 7,264	:	:	:
:	:	4/ :	:	:	:

- 1/ Farmsteads, farm roads, waste and non-agricultural  
 2/ Parenthetical amounts are duplicated acreages  
 3/ Calculated from columns 3 and 6; rounded to nearest unit  
 4/ Total area zone B reduced by 58 acres watered area

Basin: Big Creek  
 Project: Flat Fork  
 State: Arkansas

SUMMARY - TABLE III B  
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS  
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION  
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT  
 (Based on projected prices)

(1) Soil Unit	(2) Land use and crop distribution	(3) Acres	(4) Unit	(5) Production Per Acre	(6) Total	(7) Value of production Per unit	(8) Total	(9) Cost of production Per Acre	(10) Total	(11) Net Return Dollars
All	Open land	3,046								
	Crops	2,742								
	Cotton	511	Lbs. Lint	3/349	178,205	.25	44,551	4/94.19	48,132	6,524
	Cottonseed	(511)	Ton	.3139	160.39	63.00	10,105	-	-	-
	Corn	101	Bu.	31	3,082	1.45	4,468	26.12	2,638	1,830
	Rice	452	Cwt.	27	12,115	3.75	45,430	92.08	41,621	3,809
	Soybeans	546	Bu.	18	9,669	2.30	22,239	24.13	13,177	9,062
	Oats (Grain)	305	Bu.	28	8,498	.90	7,648	18.31	5,586	2,062
	Oats (Sup. Past.)	(305)	Lbs. Beef	76	23,185	.2005	4,649	6.01	1,833	2,816
	Perm. Pasture	471	Lbs. Beef	265	124,705	.2005	25,003	36.66	17,267	7,736
	Idle	356								
	Other	304								
	Woodland	3,652	Acres			6.33	23,117	3.88	14,170	8,947
	TOTAL	6,698	5/				187,210		144,424	42,786

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from columns 3 and 6; rounded to nearest unit
- 4/ Calculated from columns 3 and 10 rounded to nearest cent
- 5/ Total area zone B reduced by 58 acres watered and 566 acres woodland not anticipated to be cleared.



Basin: Big Creek  
 Project: Flat Fork  
 State: Arkansas

SUMMARY - TABLE IV B  
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS  
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION  
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT  
 (Based on projected prices)

(1) Soil Unit	(2) Land use and crop distribution	(3) Acres	(4) Unit	(5) Production Per acre	(6) Total	(7) Value of production Per unit	(8) Total	(9) Value of production Per acre	(10) Total	(11) Net Return
All	Open land	6,698								
	Crops	6,028								
	Cotton	1,448	Lbs. Lint	450	652,185	.25	163,046	119.71	173,347	26,678
	Cottonseed	(1,448)	Ton	.4054	586,97	63.00	36,979	-	-	-
	Corn	259	Bu.	36	9,288	1.45	13,467	29.89	7,742	5,725
	Rice	1,249	Cwt.	32	40,229	3.75	150,858	104.90	131,018	19,840
	Soybeans	1,285	Bu.	21	26,984	2.30	62,064	26.80	34,437	27,627
	Oats (Grain)	605	Bu.	34	20,352	.90	18,317	21.03	12,725	5,592
	Oats (Sup. Past.)	(605)	Lbs. Beef	99	59,705	.2005	11,970	8.45	5,113	6,867
	Perma. Pasture	813	Lbs. Beef	327	265,640	.2005	53,261	45.16	36,717	16,544
	Idle	369								
	Other	670								
	Woodland	-	Acres						401.00	
	TOTAL	6,698					509,962		401,099	108,863

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from columns 3 and 6; rounded to nearest unit
- 4/ Calculated from columns 3 and 10; rounded to nearest cent
- 5/ Total area zone B reduced by 58 acres watered and 566 acres woodland not anticipated to be cleared.



Basin: Big Creek  
 Project: Flat Fork  
 State: Arkansas

TABLE V  
 PROJECT AREA SUMMARY BY SOIL MAPPING UNITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Soil Unit	Acre	Gross	Future without project (Production in Dollars)	Cost	Net	Gross	Future with project (Production in Dollars)	Difference in Net Production
8	1,360	15,152	11,236	3,916	122,054	93,949	28,105	24,189
9	6,049	287,755	228,807	58,948	584,920	474,178	110,742	51,794
10	14,006	566,309	487,756	78,553	1,193,220	974,618	218,602	140,049
Subtotal	21,415	869,216	727,799	141,417	1,900,194	1,542,745	357,449	216,032
8	3,356	68,720	51,114	ZONE B-(subject to flooding)				
9	950	46,018	36,867	17,606	271,088	211,196	59,892	42,286
9S-	502	21,290	15,151	9,151	80,896	66,103	14,793	5,642
10	1,890	51,182	41,292	6,139	32,991	23,970	9,021	2,882
Subtotal	6,698	187,210	144,424	9,890	124,987	99,850	25,157	15,267
TOTAL	28,113	1,056,426	872,223	184,203	2,410,156	1,943,844	466,312	282,109

1/ Total area zone A reduced by 264 acres urban and 20,881 acres already drained, not requiring drainage, or not anticipated to be cleared.  
2/ Total area zone B reduced by 58 acres watered and 566 acres woodland not anticipated to be cleared.

Basin: Big Creek  
 Project: Flat Fork  
 State: Arkansas

TABLE VI  
 LAND CONVERSIONS WITH PROJECT

(1)	(2)	(3)	(4)	(5)
Type of Conversion <u>1/</u>	Total Amount	Cost of Clearing	Cost of Smoothing	Total Cost
	Acres	Dollars	Dollars	Dollars
Per Acre				
W to GC	xx	60	10	xx
W to IC	xx	60	10	xx
W to P	xx	60	xx	xx
P to GC	xx	xx	-	xx
P to IC	xx	xx	-	xx
GC to IC	xx	xx	xx	xx
GC to P	xx	xx	xx	xx
Project				
W to GC	5,474	328,440	54,740	383,180
W to IC	2,476	148,560	24,760	173,320
W to P	1,138	68,280	xx	68,280
P to GC	-	xx	-	-
P to IC	-	xx	-	-
GC to IC	-	xx	xx	-
GC to P	-	xx	xx	-
Total project	xx	545,280	79,500	624,780
Annual amortized value <u>2/</u>	xx	xx	xx	34,225
Total annual cost of conversions	xx	xx	xx	34,225

1/ W-woodland; GC- general dry-farmed crops; IC- irrigated crops; (rice); P-pasture.

2/ Amortized over 50 years at 5 percent

Basin: Big Creek  
 Project: Flat Fork  
 State: Arkansas

TABLE VII  
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

Zone and land use	Soil mapping unit	Area	Total Cost 1/ Installation	Annual Equivalent Instl. Cost 2/ Cost	Annual Maintenance Annual Cost	Total Annual Cost
		Acres	Dollars	Dollars	Dollars	Dollars
A	8 - General Crops	796	15,336	1,986	1,770	3,756
	8 - Rice	306	2,641	342	102	444
	8 - Pasture	122	1,874	243	72	315
	9 - General Crops	3,593	47,783	6,188	5,513	11,701
	9 - Rice	1,089	9,400	1,217	362	1,579
	9 - Pasture	762	6,201	803	143	946
	10 - General Crops	7,437	98,905	12,808	11,412	24,220
	10 - Rice	3,277	27,222	3,525	1,047	4,572
	10 - Pasture	1,891	15,708	2,034	604	2,638
	Subtotal	19,273	225,070	29,146	21,025	50,171

1/ Includes engineering and contingency  
 2/ Amortized at 5 percent over 10 years  
 3/ Does not include 10 percent "other" land



Basin: Big Creek  
 Project: Flat Fork  
 State: Arkansas

TABLE VII  
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

Zone	Soil Mapping Unit	Area	Total Cost 1/ Installation	Annual Equivalent Inst. Cost 2/	Annual Maintenance Cost	Total Annual Cost
		Acre	Dollars	Dollars	Dollars	Dollars
B	8 - General Crops	1,313	25,297	3,276	2,919	6,195
	8 - Rice	513	4,423	573	170	743
	8 - Pasture	152	2,336	303	90	393
	9 - General Crops	353	4,694	608	542	1,150
	9 - Rice	70	604	78	23	101
	9 - Pasture	70	570	74	13	87
	10 - General Crops	625	8,312	1,076	959	2,035
	10 - Rice	218	1,811	235	70	305
	10 - Pasture	149	1,237	160	48	208
	Subtotal	3,463 3/4	49,289	6,383	4,834	11,217
	TOTAL	22,736 3/4	274,359	35,529	25,859	61,388

- 1/ Includes engineering and contingency  
 2/ Amortized at 5 percent over 10 years  
 3/ Does not include 10 percent "other" land

Basin: Big Creek  
 Project: Flat Fork  
 State: Arkansas

TABLE VIII  
 ANALYSIS OF GROUP DRAINAGE NEEDS AND COSTS

Item	Unit	Amount	Unit Costs	Total Cost
			Dollars	Dollars
Excavation <u>1/</u>				
Spreading spoil <u>1/</u>				
Clearing right-of-way <u>1/</u>	Cubic Yard	939,400	.188	169,092
Right-of-way easements	Acres	614	15.00	9,210
Crossings	Each	64	500.00	32,000
Swinging water gaps	Each	136	40.00	5,440
Pipe drop structures	Each	82	200.00	16,400
Flap Gates	Each	20	100.00	2,000
Vegetative plantings	Acres	123	8.00	984
Total construction cost	XX	XX	XX	235,126
Engineering cost	XX	XX	XX	23,513
Contingencies and legal	XX	XX	XX	23,513
Total installation cost				282,152
Annual equivalent - installation cost (amortized for 20 years at $3\frac{1}{2}$ percent)				19,852
Annual maintenance cost				11,756
Annual loss of production, right-of-way <u>2/</u>				1,961
Total annual cost of required group facilities				33,569

1/ These items included in excavation costs under normal contract procedures.

2/ Annual loss of production, right-of-way. 215 acres @ \$9.12 per acre.

Basin: Big Creek  
 Project: Flat Fork  
 State: Arkansas

TABLE IX  
 SUMMARY OF ANNUAL NET PRODUCTION RETURNS  
 AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted amount
	Dollars	Dollars
1. Net return with project	466,312	xx
2. Net return without project	184,203	xx
3. Gross benefit to project	282,109	155,995 2/
4. Farm drainage cost	xx	xx 2/
a. Installation cost	35,529	xx
b. Maintenance cost	25,859	xx
c. Total	61,388	33,945
5. Group drainage cost	xx	xx 3/
a. Installation cost	19,852	xx
b. Maintenance cost 1/	13,717	xx
c. Total	33,569	25,174
6. Conversion cost	xx	xx 2/
a. Installation cost Total:	34,225	18,925

1/ Included loss of production, right-of-way

2/ Discounted at 5 percent to account for estimated 25 year lag  
 to full installation, maintenance, and benefit accrual.



Basin:	Big Creek
Project:	Prairie Cypress Creek
State:	Arkansas

TABLE I  
PRESENT LAND USE

Zone	Soil map- ping unit	Open (Acres)	Wooded (Acres)	Watered (Acres)	Urban (Acres)	Total (Acres)
Zone A	4	7,590	2,890	-	-	10,480
	6	2,790	4,450	-	-	7,240
	11	3,908	390	-	-	4,298
Subtotal - all soils		14,288	7,730	-	-	22,018
Watered		-	-	-	-	-
Urban		-	-	-	-	-
Total - Zone A		14,288	7,730	-	-	22,018
Zone B	4	2,854	2,062	-	-	4,916
	6	1,208	8,254	-	-	9,462
	11	1,988	662	-	-	2,650
Subtotal - all soils		6,050	10,978	-	-	17,028
Watered		-	-	-	-	-
Urban		-	-	-	-	-
Total - Zone B		6,050	10,978	-	-	17,028
Zone C	4	89	-	-	-	89
	6	108	164	-	-	272
	11	38	-	-	-	38
Subtotal - all soils		235	164	-	-	399
Watered		-	-	63	-	63
Urban		-	-	-	-	-
Total - Zone C		235	164	63	-	462
GRAND TOTAL		20,573	18,872	63	-	39,508

Basin: Big Creek  
 Project: Prairie Cypress Creek  
 State: Arkansas

SUMMARY - TABLE II A  
 ZONE FOR DRAINAGE CALCULATIONS ONLY  
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1):	(2)	(3)	(4)	(5)	(6)
Soil: Land use and crop	:	2/	:	Production	:
Unit: distribution	:	Acres	:	Unit : Per acre	: Total
All: Open land	:	10,380	:	:	:
: Crops	:	9,342	:	3/	:
: Cotton	:	4,730	:Lbs.Lint:	331	: 1,566,450
: Cottonseed	:	(4,730)	: Ton	: .2981	: 1,409.80
: Corn	:	373	: Bu.	: 35	: 12,920
: Rice	:	478	: Cwt	: 30	: 14,340
: Soybeans	:	1,962	: Bu.	: 19	: 37,513
: Oats (Grain)	:	747	: Bu.	: 27	: 19,998
: Oats (Sup.Past.)	:	(546)	:Lbs.Beef:	70	: 38,220
: Perm. Pasture	:	679	:Lbs.Beef:	180	: 122,220
: Idle	:	373	:	:	:
: Other 1/	:	1,038	:	:	:
:Woodland	:	7,340	: Acre	:	:
: TOTAL	:	17,720 4/	:	:	:

- 1/ Farmsteads, farm roads, waste and non-agricultural  
 2/ Parenthetical amounts are duplicated acreages  
 3/ Calculated from columns 3 and 6; rounded to nearest unit  
 4/ Total area zone A reduced 4,298 acres of lands not  
 needing drainage.

Basin: Big Creek  
 Project: Prairie Cypress Creek  
 State: Arkansas

SUMMARY - TABLE IIIA  
 ZONE FOR DRAINAGE CALCULATIONS ONLY  
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION, PRODUCTION  
 COSTS AND NET RETURN: FUTURE CONDITIONS WITHOUT PROJECT  
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil: Land use and crop	2/		Production			of production	of production			Net
Unit: distribution	Acres	Unit	Per acre	Total	Per unit	Total	Per acre	Total	Return	
All:					Dollars	Dollars	Dollars	Dollars	Dollars	Dollars
Open land	7,706	Ton	.3515	1,430.85	63.00	90,143	4/	108.19	440,442	47,546 5/
Crops	6,936	Bu.	40	13,754	1.45	19,943		33.60	11,659	8,284
Cotton	4,071	Lbs. Lint	391	1,589,840	.25	397,460		99.96	94,862	11,900
Cottonseed	(4,071)	Bu.	32	10,909	.90	9,818		19.38	6,704	3,114
Corn	347	Bu.	30	28,470	3.75	106,762		11.18	2,851	2,517
Rice	949	Cwt.	22	11,549	2.30	26,562		35.97	12,444	3,129
Soybeans	531	Bu.	32	10,909	.90	9,818				
Oats (Grain)	346	Bu.	105	26,775	.2005	5,368				
Oats (Sup. Past.)	(255)	Lbs. Beef	224	77,670	.2005	15,573				
Perm. Pasture	346	Lbs. Beef								
Idle	346									
Other	770									
Woodland	4,201	Acre			11.00	46,211		6.03	25,332	20,879
TOTAL	11,907 7/					717,840		609,048	109,177 5/	108,792 6/

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from columns 3 and 6; rounded to nearest unit
- 4/ Calculated from columns 3 and 10; rounded to nearest cent
- 5/ Adjusted to eliminate negative net return
- 6/ Includes calculated negative net return
- 7/ Total area zone A reduced by 6,972 acres already drained or not needing drainage; and 3,139 acres woodland not anticipated to be cleared.



Basin: Big Creek  
 Project: Prairie Cypress Creek  
 State: Arkansas

SUMMARY - TABLE IV A  
 ZONE FOR DRAINAGE CALCULATIONS ONLY  
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION,  
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT  
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil:	Land use and crop:	2/	Unit	Production	Total	Per unit:	Value of production	Cost of production	Total	Net Return
Unit:	distribution	Acres	Per acre	Per acre	Dollars	Dollars	Per acre	Dollars	Dollars	Dollars
All:	Open land	11,907								
	Crops	10,716	3/					4/		
	Cotton	6,760	Lbs.Lint:	755	5,106,520	25.1	276,629	189.72	1,282,530	283,639
	Cottonseed	(6,760)	Ton	.6799	4,595.87	63.00	289,540			
	Corn	536	Bu.	77	41,274	1.45	59,847	75.95	40,707	19,140
	Rice	1,072	Cwt.	35	37,520	3.75	140,700	111.17	119,174	21,526
	Soybeans	741	Bu.	26	19,434	2.30	44,698	30.77	22,800	21,898
	Oats (Grain)	536	Bu.	48	25,564	.90	23,008	29.06	15,578	7,430
	Oats (Sup.Past.)	(536)	Lbs.Beef:	154	82,670	2005	16,575	14.42	7,730	8,845
	Perm. Pasture	536	Lbs.Beef:	395	211,720	2005	42,450	52.78	28,290	14,160
	Idle	535								
	Other 1/	1,191								
	Woodland		Acre							
	TOTAL	11,907 5/					1,893,447		1,516,809	376,638

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from columns 3 and 6; rounded to nearest unit
- 4/ Calculated from columns 3 and 10; rounded to nearest cent
- 5/ Total area zone A reduced by 6,972 acres already drained or not needing drainage and 3,139 acres woodland not anticipated to be cleared.

Basin: Big Creek  
 Project: Prairie Cypress Creek  
 State: Arkansas

SUMMARY - TABLE II B  
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS  
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil	Land use and crop	2/	Production		
Unit	distribution	Acres	Unit	Per acre	Total
All	Open land	6,050			
	Crops	5,445		3/	
	Cotton	2,365	Lbs.Lint	360	850,355
	Cottonseed	(2,365)	Ton	.3236	765.32
	Corn	362	Bu.	35	12,504
	Rice	245	Cwt.	30	7,415
	Soybeans	1,017	Bu.	20	20,161
	Oats (Grain)	740	Bu.	28	20,991
	Oats (Sup.Past.)	(331)	Lbs.Beef	86	28,575
	Perm. Pasture	439	Lbs.Beef	194	85,310
	Idle	277			
	Other 1/	605			
	Woodland	10,978	Acre		
	TOTAL	17,028			

- 1/ Farmsteads, farm roads, waste and non-agricultural  
 2/ Parenthetical amounts are duplicated acreages  
 3/ Calculated from columns 3 and 6; rounded to nearest unit

Basin: Big Creek  
 Project: Prairie Cypress Creek  
 State: Arkansas

SUMMARY - TABLE III B  
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS  
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION  
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT  
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil: Land use and crop	2/	Acres	Unit	Production	Total	Per unit	Value of production	Cost of production	Total	Net Return
Unit: distribution			Per acre			Dollars	Dollars	Dollars	Dollars	Dollars
All: Open land		6,805								
Crops		6,124		3/				4/		
Cotton		3,186	Lbs. Lint	513	1,635,000	.25	408,749	140.26	446,871	54,883
Cottonseed		(3,186)	Ton	4619	1,471,500	63.00	92,705	-	-	-
Corn		306	Bu.	49	14,848	1.45	21,530	43.14	13,201	8,329
Rice		361	Cwt.	31	11,191	3.75	41,966	102.19	36,891	5,075
Soybeans		613	Bu.	27	16,353	2.30	37,611	31.74	19,454	18,157
Oats (Grain)		974	Bu.	35	33,906	.90	30,515	20.92	20,379	10,136
Oats (Sup. Past.)		(304)	Lbs. Beef	128	39,055	.2005	7,830	14.12	4,292	3,538
Perm. Pasture		379	Lbs. Beef	269	101,830	.2005	20,417	42.44	16,083	4,334
Idle		305								
Other 1/		681								
Woodland		8,060	Acre			17.46	140,728	10.61	85,517	55,211
TOTAL		14,865 5/					802,051		642,688	159,363

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from columns 3 and 6; rounded to nearest unit
- 4/ Calculated from columns 3 and 10; rounded to nearest cent
- 5/ Total area zone B reduced by 2,163 acres of woodlands not anticipated to be cleared.



Basin: Big Creek  
Project: Prairie Cypress Creek  
State: Arkansas

SUMMARY - TABLE IV B  
ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS  
COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION  
PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT  
(Based on projected prices)

(1) Soil: Land use and crop Unit: distribution	(2) Acres	(3) Unit	(4) Production Per acre	(5) Total	(6) Per unit	(7) Value of production Total	(8) Dollars	(9) Cost of production Per acre	(10) Total	(11) Net Return Dollars
All: Open land	14,865									
Crops	13,379		3/					4/		
Cotton	7,543	Lbs.Lint	658	4,965,685	25.1	1,241,421		172.81	1,303,527	219,449
Cottonseed	(7,543)	Ton	.5925	4,469.12	63.00	281,555				
Corn	669	Bu.	65	43,673	1.45	63,326		66.63	44,577	18,749
Rice	1,268	Cwt.	34	43,112	3.75	161,670		108.92	138,111	23,559
Soybeans	870	Bu.	26	22,502	2.30	51,754		30.79	26,714	25,041
Oats (Grain)	1,693	Bu.	40	68,463	.90	61,617		24.72	41,847	19,770
Oats (Sup.Past)	(846)	Lbs.Beef	120	101,370	2005	20,325		10.73	9,076	11,249
Perm. Pasture	668	Lbs.Beef	338	226,120	2005	45,337		45.87	30,639	14,698
Idle	668									
Other 1/	1,486									
Woodland		Acre								
TOTAL	14,865					1,927,005			1,594,490	332,515

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from columns 3 and 6; rounded to nearest unit
- 4/ Calculated from columns 3 and 10; rounded to nearest cent
- 5/ Total area zone B reduced by 2,163 acres of woodlands not anticipated to be cleared.

Basin: Big Creek  
 Project: Prairie Cypress Creek  
 State: Arkansas

TABLE II C  
 ZONE OF NO PROJECT BENEFIT  
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1) :	(2) :	(3) :	(4) :	(5) :	(6)
Soil :	Land use and crop :			Production	
Unit :	distribution :	Acres :	Unit :	Per acre :	Total
6 <u>1/2</u> :	Open land :	235 :			
:	Crops :	212 :			
:	Corn :	32 :	Bu. :	20 :	640
:	Soybeans :	42 :	Bu. :	14 :	588
:	Grain Sorghum :	32 :	Bu. :	18 :	576
:	Idle :	106 :			
:	Other :	23 :			
:	Woodland :	66 :	Acres :		
:	TOTAL :	<u>301</u> :			
:		<u>3/</u> :			

- 1/ Includes minor acreages soil units 4 and 11  
2/ One soil only; no summary required  
3/ Total area zone C reduced by 63 acres watered area,  
 and 98 acres woodland not anticipated to be cleared.

Basin: Big Creek  
 Project: Prairie Cypress Creek  
 State: Arkansas

TABLE III C  
 ZONE OF NO PROJECT BENEFIT 1/  
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION, PRODUCTION  
 COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT  
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil: Land use and crop				Production		Value of production		Cost of production		Net
Unit: distribution	Acre	Unit	Per acre	Total	Per unit	Total	Per acre	Total	Per acre	Return
6 2/3: Open land	301									
: Crops	271									
: Corn	41	Bu.	22	902	1.45	1,308	21.09	865		443
: Soybeans	54	Bu.	15	810	2.30	1,863	21.82	1,178		685
: Grain Sorghum	41	Bu.	19	779	1.53	1,192	18.42	755		437
: Idle	135									
: Other	30									
: Woodland	-	Acre								
: TOTAL	301 3/4					4,363		2,798		1,565

1/ One soil only - no summary required  
 2/ Total area zone C reduced by 63 acres watered, and 98 acres woodland not anticipated to be cleared  
 3/ Data is same for both "with project" and "without project" conditions; no Table IV C required



TABLE V  
PROJECT AREA SUMMARY BY SOIL MAPPING UNITS

TABLE V  
RBY BY SOIL MAPPING UNITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Soil	Unit	Acres	Gross	Cost	Net	Gross	Cost	Net
			Future without project (Production in Dollars)			Future with project (Production in Dollars)		Difference in net Production
4	7,388	577,698	488,621	89,077	1,213,405	966,384	247,021	157,944
6	4,569	140,142	120,427	20,100	680,042	650,425	129,617	109,517
Subtotal	11,907 2/	717,840	609,048	109,177	1,893,447	1,516,809	376,638	267,461
4	4,478	313,666	253,767	59,899	627,413	503,474	123,939	64,040
6	8,195	207,980	149,645	58,335	905,169	770,974	134,195	75,860
11	2,493	284,768	242,074	42,694	398,786	322,840	75,946	33,252
Subtotal	15,166 3/	806,414	645,486	160,928	1,931,368	1,597,288	334,080	173,152
TOTAL	27,073	1,524,254	1,254,534	270,105	3,824,815	3,114,097	710,718	440,615

- 1/ Adjusted to eliminate negative net return
- 2/ Total area zone A reduced by 6,972 acres already drained or not needing drainage, and 3,139 acres of woodlands not anticipated to be cleared.
- 3/ Total area zones B & C reduced by 2,261 acres of woodland not anticipated to be cleared, and 63 acres watered area.

Basin: Big Creek  
 Project: Prairie Cypress  
 State: Arkansas

TABLE VI  
 LAND CONVERSIONS WITH PROJECT

(1)	(2)	(3)	(4)	(5)
Type of Conversion 1/	Total Amount	Cost of Clearing	Cost of Smoothing	Total Cost
	Acres	Dollars	Dollars	Dollars
Per Acre				
W to GC	xx	60	10	xx
W to IC	xx	60	10	xx
W to P	xx	60	xx	xx
P to GC	xx	xx	-	xx
P to IC	xx	xx	-	xx
GC to IC	xx	xx	xx	xx
GC to P	xx	xx	xx	xx
Project				
W to GC	10,647	638,820	106,470	745,290
W to IC	1,135	68,100	11,350	79,450
W to P	479	28,740	xx	28,740
P to GC	-	xx	-	-
P to IC	-	xx	-	-
GC to IC	-	xx	xx	-
GC to P	-	xx	xx	-
Total project	xx	735,660	117,820	853,480
Annual amortized value 2/	xx	xx	xx	46,754
Total annual cost of conversions	xx	xx	xx	46,754

1/ W-woodland; GC- general dry-farmed crops; IC- irrigated crops; (rice); P-pasture.

2/ Amortized over 50 years at 5 percent.

Basin: Big Creek  
 Project: Prairie Cypress Creek  
 State: Arkansas

TABLE VII  
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

Zone	Soil mapping unit	Area	Total Cost 1/ Installation	Annual Equivalent Instl. Cost 2/ Cost	Annual Maintenance Cost	Total Annual Cost
A	4 - General crops:	Acres	Dollars	Dollars	Dollars	Dollars
	4 - Rice	5,613	74,646	9,667	8,613	18,280
	4 - Pasture	661	5,706	739	219	958
	4 - Pasture	330	2,686	348	62	410
	6 - General crops:	3,495	49,115	6,360	7,556	13,916
	6 - Rice	411	3,548	459	136	595
	6 - Pasture	206	2,895	375	223	598
	Subtotal	10,716 3	138,596	17,948	16,809	34,757
	4 - General crops:	2,474	32,902	4,261	3,796	8,057
	4 - Rice	138	1,191	154	46	200
B	4 - Pasture	137	1,116	145	26	171
	6 - General crops:	3,760	52,840	6,843	8,129	14,972
	6 - Rice	701	6,051	784	233	1,017
	6 - Pasture	212	2,979	386	229	615
	Subtotal	7,422 3	97,079	12,573	12,459	25,032
	TOTAL	18,138 3	235,675	30,521	29,268	59,789

1/ Includes engineering and contingency  
 2/ Amortized at 5 percent over 10 years  
 3/ Does not include 10 percent "other" land.



Basin:	Big Creek
Project:	Prairie Cypress Creek
State:	Arkansas

TABLE VIII  
ANALYSIS OF GROUP DRAINAGE COSTS

Item	Unit	Amount	Unit Cost	Total Cost
			Dollars	Dollars
Excavation <u>1/</u>				
Shaping or spreading spoil <u>1/</u>				
Clearing right-of-way <u>1/</u>	Cubic Yard	910,390	.18	163,870
Right-of-way easements	Acres	398	15.00	5,970
Crossings	Each	41	500.00	20,500
Swinging water gaps	Each	88	40.00	3,520
Pipe drop structures	Each	51	200.00	10,200
Flap gates	Each	20	100.00	2,000
Vegetative plantings	Acres	80	8.00	640
Total construction cost	xx	xx	xx	206,700
Engineering cost	xx	xx	xx	20,670
Contingencies and legal	xx	xx	xx	20,670
Total installation cost				248,040
Annual equivalent - installation cost (amortized for 20 years at $3\frac{1}{2}$ percent)				17,452
Annual maintenance cost				10,335
Annual loss of production, right-of-way <u>2/</u>				2,232
Total annual cost of required group facilities				30,019

1/ These items included in excavation costs under normal contract procedures.

2/ Annual loss of production, 139 acres right-of-way at \$16.06 per acre.

Basin: Big Creek  
 Project: Prairie Cypress Creek  
 State: Arkansas

TABLE IX  
 SUMMARY OF ANNUAL NET PRODUCTION RETURNS  
 AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted
	Dollars	Dollars
1. Net return with project	710,718	xx
2. Net return without project	270,105	xx
3. Gross benefit to project	440,613	273,718 2/
4. Farm drainage cost	xx	xx 2/
a. Installation cost	30,521	xx
b. Maintenance cost	29,268	xx
c. Total	59,789	37,142
5. Group drainage cost	xx	xx 3/
a. Installation cost	17,452	xx
b. Maintenance cost 1/	12,623	xx
c. Total	30,075	24,974
6. Conversion cost	xx	xx 2/
a. Installation cost Total	46,754	29,045

1/ Includes loss of production, right-of-way

2/ Discounted at 5 percent to account for estimated 20 year lag to full installation, maintenance, and benefit accrual.

3/ Discounted at  $3\frac{1}{2}$  percent to account for estimated 10 year lag to full installation, maintenance, and benefit accrual.

Basin:	Big Creek
Project:	Big Cypress Creek
State:	Arkansas

TABLE I  
PRESENT LAND USE

Zone	Soil map- ping unit	Open (Acres)	Wooded (Acres)	Watered (Acres)	Urban (Acres)	Total (Acres)
Zone A	4	12,915	4,847	-	-	17,762
	6	4,671	11,909	-	-	16,580
	9	3,360	1,190	-	-	4,550
	9S	3,040	1,400	-	-	4,440
	10	9,380	10,890	-	-	20,270
	11	1,189	1,673	-	-	2,862
Subtotal - all soils		34,555	31,909	-	-	66,464
Watered		-	-	-	-	-
Urban		-	-	-	154	154
Total - Zone A		34,555	31,909	-	154	66,618
Zone B	4	634	590	-	-	1,224
	6	1,566	7,043	-	-	8,609
	9	100	60	-	-	160
	11	1,311	336	-	-	1,647
Subtotal - all soils		3,611	8,029	-	-	11,640
Watered		-	-	-	-	-
Urban		-	-	-	-	-
Total - Zone B		3,611	8,029	-	-	11,640
Zone C	6	11	951	-	-	962
Subtotal - all soils		11	951	-	-	962
Watered		-	-	102	-	102
Urban		-	-	-	-	-
Total - Zone C		11	951	102	-	1,064
GRAND TOTAL		38,177	40,889	102	154	79,322



Basin: Big Creek  
 Project: Big Cypress Creek  
 State: Arkansas

SUMMARY - TABLE II A  
 ZONE FOR DRAINAGE CALCULATIONS ONLY  
 COMUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1):	(2)	:	(3)	:	(4)	:	(5)	:	(6)
Soil:	Land use and crop	:	<u>2/</u>	:		:	Production	:	
Unit:	distribution	:	Acres	:	Unit	:	Per Acre	:	Total
All:	Open land	:	30,026	:		:		:	
:	Crops	:	27,024	:		:	<u>3/</u>	:	
:	Cotton	:	8,441	:	Lbs.Lint:	:	333	:	2,810,355
:	Cottonseed	:	(8,441)	:	Ton	:	.2996	:	2,529.32
:	Corn	:	1,775	:	Bu.	:	29	:	51,042
:	Rice	:	2,701	:	Cwt	:	26	:	69,870
:	Soybeans	:	4,209	:	Bu.	:	17	:	70,658
:	Oats (Grain)	:	2,886	:	Bu.	:	25	:	71,506
:	Oats (Sup.Past.)	:	(1,648)	:	Lbs.Beef:	:	63	:	104,185
:	Grain Sorghum	:	210	:	Bu.	:	18	:	3,780
:	Perm. Pasture	:	2,920	:	Lbs.Beef:	:	180	:	525,600
:	Idle	:	3,882	:		:		:	
:	Other <u>1/</u>	:	3,002	:		:		:	
:	Woodland	:	28,836	:	Acre	:		:	
:	TOTAL	:	<u>58,862</u>	:	<u>4/</u>	:		:	

- 1/ Farmsteads, farm roads, waste and non-agricultural  
2/ Parenthetical amounts are duplicated acreages  
3/ Calculated from columns 3 and 6; rounded to nearest unit  
4/ Total area zone A reduced by 154 acres urban area, and 7,602  
 acres of lands already drained or not requiring drainage.

Basin: Big Creek  
 Project: Big Cypress Creek  
 State: Arkansas

SUMMARY - TABLE III A  
 ZONE FOR DRAINAGE CALCULATIONS ONLY  
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION, PRODUCTION COSTS  
 AND NET RETURNS: FUTURE CONDITION WITHOUT PROJECT  
 (Based on projected prices)

(1) Soil Unit	(2) Land use and crop distribution	(3) Acres	(4) Unit	(5) Production Per Acre	(6) Total	(7) Value of production Per Unit	(8) Total	(9) Cost of production Per Acre	(10) Total	(11) Net Return Dollars
All	Open land	24,477								
	Crops	22,030		3/						
	Cotton	7,100	Lbs. Lint	381	2,708,700	.25	677,174	4/	102.43	727,253
	Cottonseed	(7,100)	Ton	.3434	2,437.82	63.00	153,583			103,504
	Corn	1,333	Bu.	30	40,646	1.45	58,936			22,628
	Rice	4,210	Cwt.	27	111,735	3.75	419,005			34,061
	Soybeans	2,094	Bu.	21	43,576	2.30	100,224			44,625
	Oats (Grain)	2,698	Bu.	27	71,970	.90	64,772			16,973
	Oats (Sup. Past)	(1,775)	Lbs. Beef	86	152,605	.2005	30,598			13,083
	Grain Sorghum	345	Bu.	19	6,555	1.53	10,029			6,341
	Perm. Pasture	2,313	Lbs. Beef	212	491,255	.2005	98,497			71,016
	Idle	1,937								
	Other	12,447								
	Woodland	13,442	Acres			4.76	63,984	2.40	32,261	31,723
	TOTAL	37,919					1,676,802		1,374,604	302,198

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from columns 3 and 6; rounded to nearest unit
- 4/ Calculated from columns 3 and 10; rounded to nearest cent
- 5/ Total area zone A reduced by 154 acres urban area, 15,394 acres of woodlands not anticipated to be cleared, and 13,151 acres of lands already drained or not needing drainage.



Basin: Big Creek  
 Project: Big Cypress Creek  
 State: Arkansas

SUMMARY - TABLE IV A  
 ZONE FOR DRAINAGE CALCULATIONS ONLY  
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION  
 PRODUCTION COSTS, AND NET RETURNS, FUTURE CONDITIONS WITH PROJECT  
 (based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	Acres	Unit	Production	Total	Per Unit	Value of production	Cost of production	Net	Return
Unit	distribution	Acres		Per acre			Total	Per acre	Total	
All	Open land	37,919								
	Crops	34,128		3/				4/		
	Cotton	13,923	Lbs.Lint	717	9,984,730	.25	2,496,182	186.06	2,590,458	471,857
	Cottonseed	(13,923)	Ton	.6454	8,986.25	63.00	566,133			
	Corn	1,707	Bu.	60	101,754	1.45	147,544	56.48	96,403	51,141
	Rice	7,995	Cwt.	35	279,825	3.75	1,049,343	111.17	888,804	160,539
	Soybeans	2,831	Bu.	24	68,118	2.30	156,671	29.37	83,156	73,515
	Oats (Grain)	3,077	Bu.	42	130,568	.90	117,511	25.73	79,164	38,347
	Oats (Sup.Past.)	(2,369)	Lbs.Beef	119	281,540	.2005	56,449	11.00	26,068	30,381
	Grain Sorghum	459	Bu.	24	11,016	1.53	16,854	21.41	9,827	7,027
	Perm. Pasture	2,431	Lbs.Beef	362	880,550	.2005	176,550	49.96	121,456	56,094
	Idle	1,705								
	Other 1/	3,791								
	Woodland	-	Acres							
	TOTAL	37,919					4,783,237		3,895,336	887,901
		6/								

1/ Farmsteads, farm roads, waste and non-agricultural  
 2/ Parenthetical amounts are duplicated acreages  
 3/ Calculated from columns 3 and 6; rounded to nearest unit  
 4/ Calculated from columns 3 and 10; rounded to nearest cent  
 5/ Total area zone A reduced by 154 acres urban area, 15,394 acres of woodlands not anticipated to be cleared, and 13,151 acres of lands already drained or not needing drainage.



Basin: Big Creek  
 Project: Big Cypress Creek  
 State: Arkansas

SUMMARY - TABLE II B  
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS  
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil	Land use and crop	2/	Production		
Unit	distribution	Acres	Unit	Per acre	Total
Abl	Open land	3,611			
	Crops	3,250		3/	
	Cotton	1,206	Lbs.Lint	322	388,010
	Cottonseed	(1,206)	Ton	.2896	349.21
	Corn	261	Bu.	30	7,811
	Rice	85	Cwt.	31	2,635
	Soybeans	396	Bu.	18	7,102
	Oats (Grain)	587	Bu.	24	14,316
	Oats (Sup.Past)	(221)	Lbs.Beef	92	20,440
	Grain Sorghum	47	Bu.	19	893
	Perm. Pasture	322	Lbs.Beef	188	60,500
	Idle	346			
	Other 1/	361			
	Woodland	8,029	Acre		
	TOTAL	11,640 1/2			

- 1/ Farmsteads, farm roads, waste and non-agricultural  
 2/ Parenthetical amounts are duplicated acreages  
 3/ Calculated from columns 3 and 6; rounded to nearest unit  
 1/2

Basin: Big Creek  
Project: Big Cypress Creek  
State: Arkansas

SUMMARY - TABLE IIIB  
ZONE FOR DRAINAGE AND FLOOD CONTROL, CALCULATIONS  
COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION  
PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT  
(Based on projected prices)

(1) Soil Unit	(2) Land use and crop distribution	(3) Acres	(4) Unit	(5) Production Per acre	(6) Total	(7) Value of production Per unit	(8) Total Dollars	(9) Cost of production Per acre	(10) Total Dollars	(11) Net Return Dollars
Atl	Open land	4,144								
:	Crops	3,730		3/						
:	Cotton	1,745	Lbs.Lint	.494	861,315	.25	215,329	4/	131.73	229,866
:	Cottonseed	(1,745)	Ton	.4442	775.18	63.00	48,836			34,299
:	Corn	187	Bu.	43	7,993	1.45	11,590	39.87		7,455
:	Rice	297	Cwt.	31	9,169	3.75	34,384	101.90		30,265
:	Soybeans	546	Bu.	21	11,475	2.30	26,392	26.84		14,653
:	Oats (Grain)	411	Bu.	33	13,508	.90	12,157	20.85		8,569
:	Oats (Sup.Past)	(124)	Lbs.Beef	135	16,790	.2005	3,366	12.84		1,592
:	Perm. Pasture	273	Lbs.Beef	243	66,235	.2005	13,280	34.89		9,526
:	Idle	271								
:	Other	414								
:	Woodland	5,894	Acres			17.46	102,909	10.61		62,535
:	TOTAL	10,038 5/					468,243			364,461
										103,782

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from columns 3 and 6; rounded to nearest unit
- 4/ Calculated from columns 3 and 10; rounded to nearest cent
- 5/ Total area zone B reduced by 1,602 acres woodland not anticipated to be cleared

Basin: Big Creek  
 Project: Big Cypress Creek  
 State: Arkansas

SUMMARY - TABLE IV B  
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS  
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION  
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS 1TH PROJECT  
 (Based on projected prices)

(1) Soil Unit	(2) Land use and crop distribution	(3) Acres	(4) Unit	(5) Production	(6) Total	(7) Value of production	(8) Total	(9) Cost of production	(10) Total	(11) Net Return
All	Open land	10,038								
	Crops	9,034		3/						
	Cotton	4,903	Lbs. Lint	632	3,098,465	.25	774,616	170.01	833,560	116,739
	Cottonseed	(4,903)	Ton	5688	2,788,62	63.00	175,683	44.70	20,205	12,093
	Corn	452	Bu.	49	22,274	1.45	32,298	108.92	113,059	19,286
	Rice	1,038	Cwt.	34	35,292	3.75	132,345	29.35	14,912	13,113
	Soybeans	508	Bu.	24	12,185	2.30	28,025	23.52	28,976	5,613
	Oats (Grain)	1,232	Bu.	39	47,696	.90	42,927	10.54	4,752	9,274
	Oats (Sup. Past)	(451)	Lbs. Beef	115	51,700	.2005	10,365	46.40	20,927	
	Perm. Pasture	451	Lbs. Beef	334	150,625	.2005	30,201			
	Idle	450								
	Other	1,004								
	Woodland	-	Acres							
	TOTAL	10,038					1,226,460		1,036,391	190,069
		5/								

1/ Farmsteads, farm roads, waste and non-agricultural  
 2/ Parenthetical amounts are duplicated acreages  
 3/ Calculated from columns 3 and 6; rounded to nearest unit  
 4/ Calculated from columns 3 and 10; rounded to nearest cent  
 5/ Total area zone B reduced by 1,602 acres woodland not anticipated to be cleared.



Basin: Big Creek  
 Project: Big Cypress Creek  
 State: Arkansas

TABLE II C  
 ZONE OF NO PROJECT BENEFIT  
 COMPUTATION OF AGRICULTURAL PRODUCTION  
EXISTING CONDITIONS

(1) :	(2)	(3)	(4)	(5)	(6)
Soil :	Land use and crop	:	:	: Production:	:
Unit :	distribution	: Acres	: Unit	: Per Acre	: Total
:	:	:	:	:	:
6 1/:	Open land	: 11	:	:	:
:	Crops	: 11	:	:	:
:	Idle	: 11	:	:	:
:	Woodland	: 380	: Acre	:	:
:	TOTAL	: 391	:	:	:
:	:	:	:	:	:

1/ One soil only; no summary required

Basin: Big Creek  
 Project: Big Cypress Creek  
 State: Arkansas

TABLE III C 1/  
 ZONE OF NO PROJECT BENEFIT  
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION,  
 PRODUCTION COSTS, AND NET RETURNS; FUTURE CONDITIONS WITHOUT PROJECT  
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	Acre	Unit	Production	Total	Per unit	Value of production	Cost of production	Net	Return
Unit	distribution	Acre	Unit	Per Acre	Total	Per unit	Total	Per Acre	Total	Dollars
6	Open land	391								
2	Crops	352								
:	Corn	70	Bu.	22	1,540	1.45	2,233	21.21	1,485	748
:	Soybeans	88	Bu.	15	1,320	2.30	3,036	21.92	1,929	1,107
:	Perm. Pasture	18	Lbs. Beef	195	3,510	.2005	704	28.30	509	195
:	Idle	176								
:	Other	39								
:	Woodland	-	Acre							
:	TOTAL	391					5,973		3,923	2,050

1/ Data is same for both "with" project and "without" project conditions; no table IV C required.  
 2/ One soil only; no summary required.  
 3/ Farm roads, waste and non-agricultural

Basin: Big Creek  
 Project: Big Cypress Creek  
 State: Arkansas

TABLE V  
 PROJECT AREA SUMMARY BY SOIL MAPPING UNITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Soil		Future without project (Production in Dollars)	Cost	Net	Future with project (Production in Dollars)	Cost	Net	Difference in Net Production
Unit	Acres	Gross			Gross			
4	11,624	819,372	650,690	168,682	1,788,471	1,419,460	369,011	200,329
6	10,195	224,864	183,775	41,089	1,381,518	1,130,343	251,175	210,086
9	2,744	168,331	139,180	29,151	313,390	264,695	48,695	19,544
10	13,356	464,235	400,959	63,276	1,299,858	1,080,838	219,020	155,744
Subtotal	37,919	1,676,802	1,374,604	302,198	4,783,237	3,895,336	887,901	585,703
4	1,246	81,906	64,245	17,661	170,004	138,304	31,700	14,039
6	7,662	199,136	145,896	53,240	819,237	703,191	116,046	62,806
11	1,521	193,174	158,243	34,931	243,192	198,819	44,373	9,442
Subtotal	10,429	474,216	368,384	105,832	1,232,433	1,040,314	192,119	86,287
TOTAL	48,348	2,151,018	1,742,988	408,030	6,015,670	4,935,650	1,080,020	671,990

- 1/ Total area zone A reduced by 154 acres urban area, 15,394 acres of woodlands not anticipated to be cleared, and 13,151 acres of lands already drained or not needing drainage.
- 2/ Total area zones B & C reduced by 2,173 acres woodland not anticipated to be cleared and 102 acres watered area.



Basin:	Big Creek
Project:	Big Cypress Creek
State:	Arkansas

TABLE VI  
LAND CONVERSIONS WITH PROJECT

(1)	(2)	(3)	(4)	(5)
Type of Conversion 1/	Total Amount	Cost of Clearing	Cost of Smoothing	Total Cost
	Acres	Dollars	Dollars	Dollars
Per Acre				
W to GC	xx	60	10 10	xx
W to IC	xx	60	10 10	xx
W to P	xx	60	xx	xx
P to GC	xx	xx	-	xx
P to IC	xx	xx	-	xx
GC to IC	xx	xx	xx	xx
GC to P	xx	xx	xx	xx
Project				
W to GC	14,086	845,160	140,860	986,020
W to IC	4,526	271,560	45,260	316,820
W to P	724	43,440	xx	43,440
P to GC	428	xx	-	-
P to IC	-	xx	-	-
GC to IC	-	xx	xx	-
GC to P	-	xx	xx	-
Total project	xx	1,160,160	186,120	1,346,280
Annual Amortized value 2/	xx	xx	xx	73,749
Total annual cost of conversions	xx	xx	xx	73,749

1/ W-woodland; GC- general dry-farmed crops; IC- irrigated crops; (rice); P-pasture.

2/ Amortized over 50 years at 5 percent.

Basin: Big Creek  
Project: Big Cypress Creek  
State: Arkansas

TABLE VII  
ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

(1) Zone	(2) Soil Mapping unit and land use	(3) Acres	(4) Total 1/ Cost Installation:	(5) Annual Equivalent Inst. Cost 2/	(6) Annual Maintenance: Cost	(7) Total Annual Cost
A	4 - General crops	9,416	125,224	16,217	14,449	30,666
	4 - Rice	523	4,515	585	174	759
	4 - Pasture	523	4,256	551	98	649
	6 - General crops	6,423	90,263	11,689	13,887	25,576
	6 - Rice	2,294	19,801	2,564	762	3,326
	6 - Pasture	459	6,450	835	496	1,331
	9 - General crops	1,853	24,643	3,191	2,843	6,034
	9 - Rice	370	3,194	414	123	537
	9 - Pasture	247	2,010	260	46	306
	10 - General crops	6,010	79,926	10,350	9,222	19,572
	10 - Rice	4,808	39,940	5,172	1,536	6,708
	10 - Pasture	1,202	9,985	1,293	384	1,677
	Subtotal	34,128 3/	410,207	53,121	44,020	97,141

- 1/ Includes engineering and contingency
- 2/ Amortized at 5 percent for 10 years
- 3/ 10 percent "other" land not included

Basin: Big Creek  
 Project: Big Cypress Creek  
 State: Arkansas

TABLE VII  
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

Zone	Soil mapping unit and land use	Area Acres	Total Cost 1/ Installation Dollars	Annual Equivalent Inst. Cost 2/ Dollars	Annual Maintenance Cost Dollars	Total Annual Cost Dollars
B	4 - General Crops	697	9,269	1,200	1,069	2,269
	4 - Rice	39	337	44	13	57
	4 - Pasture	38	310	40	7	47
	6 - General crops	3,574	50,225	6,504	7,727	14,231
	6 - Rice	668	5,767	747	222	969
	6 - Pasture	214	3,007	389	231	620
	Subtotal	5,230 3/4	68,915	8,924	9,269	18,193
	TOTAL	39,358 3/4	479,122	62,045	53,289	115,334

1/ Includes engineering and contingency  
 2/ Amortized at 5 percent for 10 years  
 3/ 10 percent "other" land not included.



Basin:	<u>Big Creek</u>
Project:	<u>Big Cypress Creek</u>
State:	<u>Arkansas</u>

TABLE VIII  
ANALYSIS OF GROUP DRAINAGE COSTS

Item	Unit	Amount	Unit Cost	Total Cost
			Dollars	Dollars
Excavation <u>1/</u>				
Shaping or spreading spoil <u>1/</u>				
Clearing right-of-way <u>1/</u>	Cubic Yard	2,088,220	.18	375,880
Right-of-way easements	Acres	461	15.00	6,915
Crossings	Each	96	500.00	48,000
Swing water gaps	Each	205	40.00	8,200
Pipe drop structures	Each	123	200.00	24,600
Flap gates	Each	40	100.00	4,000
Vegetative plantings	Acres	184	8.00	1,472
Total construction cost	xx	xx	xx	469,067
Engineering cost	xx	xx	xx	46,907
Contingencies and legal	xx	xx	xx	46,907
Total installation cost				562,881
Annual equivalent - installation cost (amortized for 20 years at 3 $\frac{1}{2}$ percent)				39,604
Annual maintenance cost				23,453
Annual loss of production, right-of-way <u>2/</u>				2,012
Total annual cost of required group facilities				65,069

1/ These items included in excavation costs under normal contract procedures.

2/ Annual loss of production on 161 acres right-of-way at \$12.50 per acre.

Basin: Big Creek  
 Project: Big Cypress Creek  
 State: Arkansas

TABLE IX  
 SUMMARY OF ANNUAL NET PRODUCTION RETURNS  
 AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted
		Amount
	Dollars	Dollars
1. Net return with project	1,080,020	xx
2/ Net return without project	408,030	xx
3. Gross benefit to project	671,990	371,584 2/
4. Farm drainage cost	xx	xx 2/
a. Installation cost	62,045	xx
b. Maintenance cost	53,289	6xx775
c. Total	115,334	63,775
5. Group drainage cost	xx	xx 3/
a. Installation cost	39,604	xx
b. Maintenance cost 1/	25,465	xx
c. Total	65,069	48,797
6. Conversion cost	xx	xx 2/
a. Installation cost Total	73,749	40,780

- 1/ Included loss of production, right-of-way  
 2/ Discounted at 5 percent to account for estimated 25 year lag to full installation, maintenance, and benefit accrual.  
 3/ Discounted at 3½ percent to account for estimated 15 year lag to full installation, maintenance, and benefit accrual.

Basin:	Big Creek
Project:	Little Cypress Creek
State:	Arkansas

TABLE I  
PRESENT LAND USE

Zone	Soil map- ping unit	Open (Acres)	Wooded (Acres)	Watered (Acres)	Urban (Acres)	Total (Acres)
Zone A	4	8,789	1,655	-	-	10,444
	6	3,119	7,454	-	-	10,573
	9	302	57	-	-	359
	9S	2,072	1,419	-	-	3,491
	11	1,249	120	-	-	1,369
Subtotal - all soils		15,531	10,705	-	-	26,236
Watered		-	-	-	-	-
Urban		-	-	-	-	-
Total - Zone A		15,531	10,705	-	-	26,236
Zone B	4	50	157	-	-	207
	6	495	1,022	-	-	1,517
Subtotal - all soils		545	1,179	-	-	1,724
Watered		-	-	-	-	-
Urban		-	-	-	-	-
Total - Zone B		545	1,179	-	-	1,724
Zone C	1	-	82	-	-	82
	4	774	238	-	-	1,012
	6	-	201	-	-	201
Subtotal - all soils		774	521	-	-	1,295
Watered		-	-	32	-	32
Urban		-	-	-	-	-
Total - Zone C		774	521	32	-	1,327
GRAND TOTAL - PROJECT		16,850	12,405	32	-	29,287



Basin: Big Creek  
 Project: Little Cypress Creek  
 State: Arkansas

SUMMARY - TABLE II A  
 ZONE FOR DRAINAGE CALCULATIONS ONLY  
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil	Land use and crop	2/	Production		
Unit	distribution	Acres	Unit	Per Acre	Total
All	Open land	11,820			
	Crops	10,638		3/	
	Cotton	4,575	:Lbs.Lint:	347	1,589,715
	Cottonseed	(4,575)	: Ton	.3127	1,430.74
	Corn	1,512	: Bu.	36	55,165
	Soybeans	923	: Bu.	17	15,677
	Oats (Grain)	1,063	: Bu.	29	30,330
	Oats (Sup.Past.)	(933)	:Lbs.Beef:	70	65,310
	Grain Sorghum	24	: Bu.	16	384
	Perm. Pasture	1,556	:Lbs.Beef:	180	280,080
	Idle	985			
	Other 1/	1,182			
	Woodland	9,166	: Acres		
	TOTAL	20,986 4/			

- 1/ Farmsteads, farm roads, waste and non-agricultural  
 2/ Parenthetical amounts are duplicated acreages  
 3/ Calculated from columns 3 and 6; rounded to nearest unit  
 4/ Total area zone A reduced by 4,860 acres of lands not needing drainage, and 390 acres of wet lands already drained.

Basin: Big Creek  
 Project: Little Cypress Creek  
 State: Arkansas

SUMMARY - TABLE III A  
 ZONE FOR DRAINAGE CALCULATIONS ONLY  
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION, PRODUCTION  
 COSTS AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT  
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	2/	Unit	Production	Total	Value of production	Cost of production	Net		
Unit	distribution	Acres	Per acre	Per acre	Total	Per Unit	Total	Per acre	Total	Return
All	Open land	8,500								
	Crops	7,650		3/						
	Cotton	2,336	Lbs. Lint	388	905,240	.25	226,310	4/	103.86	242,609
	Cottonseed	(2,336)	Ton	3488	814.72	63.00	51,326			
	Corn	755	Bu.	40	30,034	1.45	43,549			
	Soybeans	1,503	Bu.	25	38,197	2.30	87,852			
	Oats (Grain)	373	Bu.	32	11,813	.90	10,631			
	Oats (Sup. Past.)	(278)	Lbs. Beef	105	29,190	.2005	5,853			
	Grain Sorghum	18	Bu.	20	360	1.53	551			
	Perm. Pasture	1,511	Lbs. Beef	225	339,925	.2005	68,155			
	Idle	1,154								
	Other	850								
	Woodland	4,232	Acre			5.43	22,980			
	TOTAL	12,732 5/					517,207			
								2.96	12,527	10,453
									385,882	131,325

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from columns 3 and 6; rounded to nearest unit
- 4/ Calculated from columns 3 and 10; rounded to nearest cent
- 5/ Total area zone A reduced by 8,570 acres already drained or not needing drainage, and 4,934 acres of woodlands not anticipated to be cleared.

SUMMARY - TABLE IV A  
ZONE FOR DRAINAGE CALCULATIONS ONLY  
COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION,  
PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT  
(Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	2/	Production	Value of production	Cost of production	Net	Return			
Unit	distribution	Acres	Unit	Per acre	Total	Per unit	Total	Per acre	Total	Dollars
All	Open land	12,732								
:	Crops	11,459		3/				4/		
:	Cotton	5,386	Lbs. lint	618	3,327,700	.25	831,924	161.07	867,500	153,105
:	Cottonseed	(5,386)	Ton	.5561	2,994.94	63.00	188,681			
:	Corn	1,140	Bu.	54	61,776	1.45	89,575	45.06	51,373	38,202
:	Soybeans	1,634	Bu.	26	42,366	2.30	97,442	30.60	49,995	47,447
:	Oats (Grain)	1,145	Bu.	47	54,132	.90	48,719	28.54	32,680	16,039
:	Oats (Sup. Past.)	(1,145)	Lbs. Beef	153	175,215	*2005	35,130	14.78	16,921	18,209
:	Perm. Pasture	1,581	Lbs. Beef	395	623,735	*2005	125,059	54.04	85,434	39,625
:	Idle	573								
:	Other	1,273								
:	Woodland	-	Acres							
:	TOTAL	12,732					1,416,530		1,103,903	312,627

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from columns 3 and 6; rounded to nearest unit
- 4/ Calculated from columns 3 and 10; rounded to nearest cent
- 5/ Total area zone A reduced by 8,570 acres already drained or not needing drainage, and 4,934 acres of woodlands not anticipated to be cleared.



Basin: Big Creek  
 Project: Little Cypress Creek  
 State: Arkansas

TABLE II B  
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS  
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil	Land use and crop:	3/ Acre	Unit	Production Per acre	Total
Unit	distribution				
6 1/	Open land	545			
	Crops	491		4/	
	Cotton	153	Lbs.Lint	280	42,840
	Cottonseed	(153)	Ton	.2520	38.56
	Corn	44	Bu.	25	1,100
	Rice	29	Cwt.	31	899
	Soybeans	54	Bu.	16	864
	Oats (Grain)	128	Bu.	23	2,944
	Perm. Pasture	44	Lbs.Beef	220	9,680
	Idle	39			
	Other 2/	54			
	Woodland	1,179	Acres		
	TOTAL	1,724			

- 1/ One soil only; no summary required  
 2/ Farmsteads, farm roads, waste and non-agricultural  
 3/ Parenthetical amounts are duplicated acreages  
 4/ 18.35 percent cropland drained.

Basin: Big Creek  
 Project: Little Cypress Creek  
 State: Arkansas

TABLE III B  
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS  
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION  
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT  
 (Based on projected prices)

(1) Soil Unit	(2) Land use and crop distribution	(3) Acres	(4) Unit	(5) Production Per acre	(6) Total	(7) Value of production Per unit	(8) Total	(9) Cost of production Per acre	(10) Total	(11) Net Return Dollars
6 1/2	Open land	545								
:	Crops	491		4/5						
:	Cotton	153	Lbs.	320	48,960	.25	12,240	89.92	13,758	1,258
:	Cottonseed	(153)	Ton	2880	44.06	63.00	2,776			
:	Corn	44	Bu.	28	1,232	1.45	1,786	24.60	1,082	704
:	Rice	29	Cwt.	31	899	3.75	3,371	102.19	2,964	407
:	Soybeans	54	Bu.	17	918	2.30	2,111	23.71	1,280	331
:	Oats (Grain)	128	Bu.	25	3,200	.90	2,880	16.80	2,150	730
:	Perma. Pasture	44	Lbs. Beef	240	10,560	.2005	2,117	34.56	1,521	596
:	Idle	39								
:	Other 2/	54								
:	Woodland	236	Acres			5.43	1,281	2.96	699	582
:	TOTAL	7816					28,562		23,454	5,108

- 1/ One soil only; no summary required
- 2/ Farmsteads, farm roads, waste and non-agricultural
- 3/ Parenthetical amounts are duplicated acreages
- 4/ 23.30 percent cropland drained
- 5/ 25 percent cotton on drained land irrigated
- 6/ Total area zone B reduced by 943 acres woodland not anticipated to be cleared.

Basin: Big Creek  
 Project: Little Cypress Creek  
 State: Arkansas

TABLE IV B  
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS  
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION,  
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT  
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil:	Land use and crop	Acres	Unit	Production	Total	Value of production	Cost of production	Net		
Unit:	distribution			Per Acre		Per unit	Per acre	Return		
6 1/2	Open land	781								
:	Crops	703		5/						
:	Cotton	316	Lbs.Lint	505 6/	159,580	.25	39,895	136.84	43,241	5,702
:	Cottonseed	(316)	Ton	.4545	143.62	63.00	9,048			
:	Corn	63	Bu.	41	2,583	1.45	3,745	34.22	2,156	1,589
:	Rice	42	Cwt.	34	1,428	3.75	5,355	108.92	4,575	780
:	Soybeans	78	Bu.	22	1,716	2.30	3,947	27.69	2,160	1,787
:	Oats (Grain)	106	Bu.	38	4,028	.90	3,625	23.05	2,443	1,182
:	Oats (Sup.Past.) 2/	(53)	Lbs.Beef	105	5,565	2005	1,116	9.47	502	614
:	Perm. Pasture	63	Lbs.Beef	345	21,735	2005	4,358	48.78	3,010	1,348
:	Idle	35								
:	Other	78								
:	Woodland		Acres							
:	TOTAL	781 7/					71,089		58,087	13,002

- 1/ One soil only; no summary required
- 2/ Estimated from oats for grain
- 3/ Farmsteads, farm roads, waste and non-agricultural
- 4/ Parenthetical amounts are duplicated acreages
- 5/ 74.90 percent cropland drained
- 6/ 25 percent cotton on drained land irrigated
- 7/ Total area zone B reduced by 943 acres woodland not anticipated to be cleared.



Basin: Big Creek  
 Project: Little Cypress Creek  
 State: Arkansas

TABLE II C  
 ZONE OF NO PROJECT BENEFIT  
 COMPUTATION OF AGRICULTURAL PRODUCTION;  
EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil	Land use and crop	<u>4/</u>	Production		
Unit	distribution	Acre	Unit	Per acre	Total
4 <u>1/</u> <u>2/</u>	Open land	774			
	Crops	697			
	Cotton	35	Lbs.Lint	375	13,125
	Cottonseed	(35)	Ton	.3375	11.81
	Corn	105	Bu.	40	4,200
	Soybeans	139	Bu.	21	2,919
	Grain Sorghum	70	Bu.	20	1,400
	Idle	348			
	Other <u>3/</u>	77			
	Woodland	156	Acres		
	TOTAL	930 <u>5/</u>			

- 1/ Includes minor acreages soil units 1 and 6  
2/ One soil only; no summary required  
3/ Farm roads, waste and non-agricultural  
4/ Parenthetical amounts are duplicated acreages  
5/ Total area zone C reduced by 365 acres of woodland not anticipated to be cleared.

Basin: Big Creek  
 Project: Little Cypress Creek  
 State: Arkansas

TABLE III C  
 ZONE OF NO PROJECT BENEFIT 1/  
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION,  
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT  
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil : Land use and crop	5/	Acres	Unit	Production	Value of production	Cost of production	Net			
Unit : distribution				Per acre	Total	Per unit	Total	Per acre	Total	Return
4 2/3/ Open land		930								
: Crops		837								
: Cotton		42	Lbs. Lint	440	18,480	.25	4,620	115.03	4,831	837
: Cottonseed		(42)	Ton	3960	16.63	63.00	1,048			
: Corn		126	Bu.	46	5,796	1.45	8,404	38.52	4,853	3,551
: Soybeans		167	Bu.	29	4,843	2.30	11,139	33.13	5,533	5,606
: Grain Sorghum		84	Bu.	25	2,100	1.53	3,213	22.01	1,849	1,364
: Idle		418								
: Other	4/	93								
: Woodland		-	Acre							
: TOTAL		930 6/					28,424		17,066	11,358

- 1/ Data is same for both "with project" and "without project" conditions; no table IV C required
- 2/ Includes minor acreages soil units 1 and 6
- 3/ One soil only; no table IV C required
- 4/ Farm roads, waste and non-agricultural
- 5/ Parenthetical amounts are duplicated acreages
- 6/ Total area zone C reduced by 365 acres of woodland not anticipated to be cleared.

Basin: Big Creek  
 Project: Little Cypress Creek  
 State: Arkansas

TABLE V  
 PROJECT AREA SUMMARY BY SOIL MAPPING UNITS

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Soil Unit	Aores	Gross	Cost	Net	Gross	Cost	Net	Difference in Net Production
		Future without project (Production in Dollars)			Future with project (Production in Dollars)			
4	7,090	408,555	299,313	ZONE A - (Not subject to flooding)	859,167	670,177	188,990	79,748
6	5,424	95,383	75,479		535,195	415,155	120,040	100,136
9	218	13,269	11,090	2,179	22,168	18,571	3,597	1,418
Subtotal	12,732 1/2	517,207	385,882	131,325	1,416,530	1,103,903	312,627	181,302
4	930	28,424	17,066	ZONES B & C - (Subject to flooding)	28,424	17,066	11,358	-
6	781	28,562	23,454		71,089	58,087	13,002	7,894
Subtotal	1,711 2/3	56,986	40,520	16,466	99,513	75,153	24,360	7,894
TOTAL	14,443	574,193	426,402	147,791	1,516,043	1,179,056	336,987	189,196

- 1/ Total area zone A reduced by 8,570 acres of lands not needing drainage or drained without project and 4,934 acres of woodlands not anticipated to be cleared.
- 2/ Total area zones B and C reduced by 1,308 acres of woodland not anticipated to be cleared, and 32 acres watered area.



Basin: Big Creek  
 Project: Little Eypress Creek  
 State: Arkansas

TABLE VI  
 LAND CONVERSIONS WITH PROJECT

(1)	(2)	(3)	(4)	(5)
Type of Conversion 1/	Total Amount	Cost of Clearing	Cost of Smoothing	Total Cost
	<u>Acres</u>	<u>Dollars</u>	<u>Dollars</u>	<u>Dollars</u>
<u>Per Acre</u>				
W to GC	xx	60	10	xx
W to IC	xx	60	10	xx
W to P	xx	60	xx	xx
P to GC	xx	xx	-	xx
P to IC	xx	xx	-	xx
GC to IC	xx	xx	xx	xx
GC to P	xx	xx	xx	xx
<u>Project</u>				
W to GC	4,083	244,980	40,830	285,810
W to IC	13	780	130	910
W to P	372	22,320	xx	22,320
P to GC	283	xx	-	-
P to IC	-	xx	-	-
GC to IC	-	xx	xx	-
GC to P	-	xx	xx	-
Total project	xx	268,080	40,960	309,040
Annual amortized value 2/	xx	xx	xx	16,929
Total annual cost of conversions	xx	xx	xx	16,929

1/ W-woodland; GC- general dry-farmed crops; IC irrigated crops; (rice); P-pasture.

2/ Amortized over 50 years at 5 percent.

Basin: Big Creek  
 Project: Little Cypress Creek  
 State: Arkansas

TABLE VII  
 ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

Zone	Soil mapping unit and land use	Area Acres	Total Cost Installation 1/ Dollars	Annual Equivalent Cost 1/ Dollars	Annual Maintenance Cost 2/ Dollars	Total Annual Cost Dollars
A	4 - General crops	5,551	73,823	9,560	8,518	18,078
	4 - Pasture	830	6,755	875	156	1,031
	6 - General crops	4,150	58,319	7,552	8,972	16,524
	6 - Pasture	732	10,286	1,332	791	2,123
	9 - General crops	177	2,354	305	272	577
	9 - Pasture	19	155	20	4	24
	Subtotal	11,459 3/4	151,692	19,644	18,713	38,357
B	6 - General crops	352	4,946	641	761	1,402
	6 - Rice	24	207	27	8	35
	6 - Pasture	37	520	67	40	107
	Subtotal	412 3/4	5,673	735	809	1,544
	TOTAL	11,871 3/4	157,365	20,379	19,522	39,901

1/ Includes engineering and contingency  
 2/ Amortized at 5 percent over 10 years  
 3/ Does not include 10 percent "other" land.

Basin: Big Creek  
 Project: Little Cypress Creek  
 State: Arkansas

TABLE VIII  
 ANALYSIS OF GROUP DRAINAGE NEEDS AND COSTS

Item	: Unit	: Amount	: Unit Cost	: Total Cost
			: Dollars	: Dollars
Excavation <u>1/</u>	:	:	:	:
Shaping or spreading spoil <u>1/</u>	:	:	:	:
Clearing right-of-way <u>1/</u>	:Cubic Yard:	1,028,000:	.18:	185,040
Right-of-way easements	: Acres	: 154:	15.00:	2,310
Crossings	: Each	: 32:	500.00:	16,000
Swinging water gaps	: Each	: 69:	40.00:	2,760
Pipe drop structures	: Each	: 41:	200.00:	8,200
Flap gates	: Each	: 15:	100.00:	1,500
Vegetative plantings	: Acres	: 62:	8.00:	496
Total construction cost	: XX	: XX	: XX	: 216,306
Engineering cost	: XX	: XX	: XX	: 21,631
Contingencies and legal	: XX	: XX	: XX	: 21,631
Total installation cost				: 259,568
Annual equivalent installation cost (amortized for 20 years at 3 $\frac{1}{2}$ percent)				: 18,263
Annual maintenance cost				: 10,815
Annual loss of production, right-of-way <u>2/</u>				: 757
Total annual cost of required group facilities				: 29,835

1/ These items included in excavation costs under normal contract procedures.

2/ Annual loss of production on 54 acres right-of-way at \$14.01 per acre.



Basin: Big Creek  
 Project: Little Cypress Creek  
 State: Arkansas

TABLE IX  
 SUMMARY OF ANNUAL NET PRODUCTION RETURNS  
 AND ASSOCIATED COSTS

(1)	(2)	(3)
Item	Total	Discounted Amount
	Dollars	Dollars
1. Net return with project	336,987	xx
2. Net return without project	147,791	xx
3. Gross benefit to project	189,196	117,532 <u>2/</u>
4. Farm drainage cost	xx	xx <u>2/</u>
a. Installation cost	20,379	xx
b. Maintenance cost	19,522	xx
c. Total	39,901	24,787
5. Group drainage cost	xx	xx <u>3/</u>
a. Installation cost	18,263	xx
b. Maintenance cost <u>1/</u>	11,572	xx
c. Total	29,835	24,775
6. Conversion cost	xx	xx <u>2/</u>
a. Installation cost Total	16,929	10,517

1/ Includes loss of production, right-of-way

2/ Discounted at 5 percent to account for estimated 20 year lag to full installation, maintenance, and benefit accrual.

3/ Discounted at  $3\frac{1}{2}$  percent to account for estimated 10 year lag to full installation, maintenance, and benefit accrual.

Basin: Big Creek  
 Project: Crooked Creek  
 State: Arkansas

TABLE I  
 PRESENT LAND USE

Zone	Soil map- ping unit	Open (Acres)	Wooded (Acres)	Urban (Acres)	Watered (Acres)	Total (Acres)
A	7	8,372	1,266	-	-	9,638
	8	1,940	7,401	-	-	9,341
	9	10,353	6,095	-	-	16,448
	9S	3,832	282	-	-	4,114
	10	1,152	6,041	-	-	7,193
Subtotal - All Soils-		25,649	21,085	-	-	46,734
Urban		-	-	103	-	103
Watered		-	-	-	-	-
Total - Zone A	-	25,649	21,085	103	-	46,837
B	8	165	651	-	-	816
	9	50	61	-	-	111
	9S	214	165	-	-	379
Subtotal - All Soils-		429	877	-	-	1,306
Urban		-	-	-	-	-
Watered		-	-	-	32	32
Total, Zone B		429	877	-	32	1,338
C Zone		-	-	-	-	-
TOTAL - Project		26,078	21,962	103	32	48,175

Basin:	<u>Big Creek</u>
Project:	<u>Crooked Creek</u>
State:	<u>Arkansas</u>

SUMMARY - TABLE II A  
 ZONE FOR DRAINAGE CALCULATIONS ONLY.  
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1):	(2)	:	(3)	:	(4)	:	(5)	:	(6)
Soil :	Land use and crop	:	<u>2/</u>	:	Production				
Unit :	distribution	:	Acres	:	Unit	:	Per Acre	:	Total
:		:		:		:		:	
All :	Open land	:	21,672	:		:		:	
:	Crops	:	19,505	:		:	<u>4/</u>	:	
:	Cotton	:	10,039	:	Lbs.Lint:	:	315	:	3,158,020
:	Cottonseed	:	(10,039)	:	Ton	:	.2831	:	2,842.21
:	Corn	:	2,522	:	Bu.	:	29	:	73,436
:	Rice	:	87	:	Gqt.	:	24	:	2,088
:	Soybeans	:	2,685	:	Bu.	:	17	:	46,470
:	Oats (Grain)	:	981	:	Bu.	:	27	:	26,150
:	Oats (Sup. Past.)	:	(981)	:	Lbs.Beef:	:	69	:	67,890
:	Grain Sorghum	:	93	:	Bu.	:	15	:	1,395
:	Perm. pasture	:	1,348	:	Lbs.Beef:	:	180	:	242,640
:	Idle	:	1,750	:		:		:	
:	Other <u>1/</u>	:	2,167	:		:		:	
:	Woodland	:	18,776	:	Acre	:		:	
:	TOTAL	:	40,448	:		:		:	
:		:	<u>3/</u>	:		:		:	

- 1/ Farmsteads, farm roads, waste and non-agricultural  
2/ Parenthetical amounts are duplicated acreages  
3/ Total area zone A reduced by 103 acres urban, 2,027 acres dedicated woodland and 4,259 acres already drained or not requiring drainage.  
4/ Calculated from columns 3 and 6 rounded to nearest unit.



Basin: Big Creek  
 Project: Crooked Creek  
 State: Arkansas

SUMMARY - TABLE III A  
 ZONE FOR DRAINAGE CALCULATIONS ONLY  
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION, PRODUCTION COSTS  
 AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT  
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	2/	Acres	Unit	Production	Value of production	Cost of production	Net	Return	
Unit	distribution	Acres	Unit	Per Acre	Total	Per Unit	Total	Per Acre	Total	
All	Open land	16,231								
	Crops	14,608								
	Cotton	8,260	Lbs.	Lint	350	2,894,740		98.02	809,656	78,160 5/
										79,212 6/
	Cottonseed	(8,260)	Ton		3154	2,605.26	63.00	164,131		
	Corn	1,071	Bu.		35	37,282	1.45	54,059	29.90	32,020
	Rice	82	Cwt.		25	2,050	3.75	7,687	87.64	7,186
	Soybeans	1,802	Bu.		23	41,443	2.30	95,318	28.81	51,907
	Oats (Grain)	730	Bu.		30	21,649	.90	19,484	18.53	13,526
	Oats (Sup.Past)	(649)	Lbs.	Beef	79	51,395	.2005	10,304	7.96	5,161
	Grain Sorghum	422	Bu.		20	8,276	1.53	12,662	18.54	7,822
	Perm.Pasture	1,070	Lbs.	Beef	227	242,585	.2005	48,638	36.36	38,909
	Idle	1,171								
	Other 1/	1,623								
	Woodland	9,101	Acres			6.01	54,697	3.35	30,488	24,209
	TOTAL	25,332				1,190	665		996,675	193,990 5/
		7/								195,042 6/

1/ Farmsteads, farm roads, waste and non-agricultural  
 2/ Parenthetical amounts are duplicated acreages.  
 3/ Calculated from columns 3 and 6 rounded to nearest unit  
 4/ Calculated from columns 3 and 10 rounded to nearest cent  
 5/ Includes calculated negative net return.  
 6/ Adjusted to eliminate negative net return.  
 7/ Total area Zone A reduced by 2,027 acres dedicated to woodland, 103 acres urban, 9,675 acres woodland not anticipated to be cleared, and 9,700 acres already drained or not requiring drainage.

Basin: Big Creek  
Project: Crooked Creek  
State: Arkansas

SUMMARY - TABLE IV A  
ZONE FOR DRAINAGE CALCULATIONS ONLY  
COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION  
PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT  
(Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop	2/	Acres	Unit	Production	Value of production:	Cost of production:	Net		
Unit	distribution	Acres	Unit	Per Acre	Total	Per Unit	Total	Per Acre	Total	Return
All	Open land	25,332								
	Crops	22,799								
	Cotton	13,455	Lbs.	3/	6,436,750	.25:	1,609,187	128.45	1,728,287	245,863
	Cottonseed	(13,455)	Ton	4306	5,793.07	63.00:	364,963	-	-	-
	Corn	2,119	Bu.	45	94,950	1.45:	137,678	37.04	78,498	59,180
	Rice	224	Cwt.	35	7,840	3.75:	29,400	111.17	24,902	44,498
	Soybeans	2,505	Bu.	24	60,464	2.30:	139,068	29.49	73,866	65,202
	Oats (Grain)	1,831	Bu.	42	77,064	.90:	69,358	24.79	45,392	23,966
	Oats (Sup.Past.)	(916)	Lbs.Bf.	125	114,565	.2005:	22,970	12.89	11,805	11,165
	Grain Sorghum	161	Bu.	19	3,059	1.53:	4,680	18.26	2,940	1,740
	Perm. Pasture	1,140	Lbs.Bf.	365	415,595	.2005:	83,326	53.81	61,342	21,984
	Idle	1,364								
	Other	2,533								
	Woodland	-	Acres							
	TOTAL	25,332 5/					2,460,630:		2,027,032	433,598

1/ Farmsteads, farm roads, waste and non-agricultural  
2/ Parenthetical amounts are duplicated acreages  
3/ Calculated from columns 3 and 6; rounded to nearest unit  
4/ Calculated from columns 3 and 10; rounded to nearest cent  
5/ Total area zone A reduced by 2027 acres dedicated to woodland, 103 acres urban, 9,675 acres  
woodland not anticipated to be cleared, and 9,700 acres lands already drained or not requiring drainage.



Basin: Big Creek  
 Project: Crooked Creek  
 State: Arkansas

SUMMARY - TABLE II B  
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS  
 COMPUTATION OF AGRICULTURAL PRODUCTION: EXISTING CONDITIONS

(1)	(2)	(3)	(4)	(5)	(6)
Soil	Land use and crops	2/	Production		
Unit	distribution	:Acres	: Unit	: Per Acre	: Total
All	Open land	: 429	:	:	:
	Crops	: 387	:	3/	:
	Cotton	: 153	:Lbs.Lint:	258	: 39,435
	Cottonseed	: (153)	: Ton	: .2320	: 35.49
	Corn	: 60	: Bu.	: 19	: 1,128
	Soybeans	: 80	: Bu.	: 15	: 1,170
	Oats (Grain)	: 17	: Bu.	: 25	: 425
	Oats (Su.Past.)	: (17)	:Lbs.Beef:	90	: 1,530
	Grain Sorghum	: 8	: Bu.	: 15	: 120
	Perm.Pasture	: 25	:Lbs.Beef:	195	: 4,875
	Idle	: 44	:	:	:
	Other 1/	: 42	:	:	:
	Woodland	: 877	: Acres	:	:
	TOTAL	: 1,306	:	:	:
		: 4/	:	:	:

- 1/ Farmsteads, farm roads, waste and non-agricultural  
 2/ Parenthetical amounts are duplicated acreages  
 3/ Calculated from columns 3 and 6; rounded to nearest unit  
 4/ Total area Zone B reduced by 32 acres watered area.



Basin: Big Creek  
 Project: Crooked Creek  
 State: Arkansas

SUMMARY - TABLE III B  
 ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS  
 COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION,  
 PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITHOUT PROJECT  
 (Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil	Land use and crop:	2/	Acres	Unit	Production	Per Acre	Total	Value of production:	Cost of production:	Net
Unit	distribution	Acres	Unit	Per Acre	Total	Per Unit	Total	Per Acre	Total	Return
All	Open land	465	:	:	:	Dollars	Dollars	Dollars	Dollars	Dollars
:	Crops	419	:	:	:	:	:	:	:	:
:	Cotton	163	:	Lbs. lint.	346	.25	14,081	97.73	15,930	1,345
:			:	:	:	:	:	:	:	3/4/2
:	Cottonseed	(163)	:	Ton	3110	63.00	3,194	-	-	-
:	Corn	69	:	Bu.	23	1.45	2,251	22.07	1,523	728
:	Soybeans	88	:	Bu.	17	2.30	3,525	24.52	2,158	1,367
:	Oats (Grain)	17	:	Bu.	36	.90	551	21.24	361	190
:	Oats (Sup. Past.)	(17)	:	Lbs. Beef	125	2005	426	13.67	232	194
:	Grain Sorghum	8	:	Bu.	19	1.53	233	18.20	146	87
:	Perm. Pasture	25	:	Lbs. Beef	340	2005	1,704	52.68	1,317	387
:	Idle	49	:	:	:	:	:	:	:	:
:	Other	46	:	:	:	:	:	:	:	:
:	Woodland	406	:	Acres	:	6.01	2,440	3.35	1,360	1,080
:	TOTAL	871	:	5/	:	:	28,405	:	23,027	5,378
:			:	:	:	:	:	:	:	3/4/

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Includes calculated negative net return
- 4/ Adjusted to eliminate negative net return
- 5/ Total area Zone B reduced by 32 acres watered and 435 acres woodland not anticipated to be cleared

SUMMARY - TABLE IV B

ZONE FOR DRAINAGE AND FLOOD CONTROL CALCULATIONS

COMPUTATION OF AGRICULTURAL PRODUCTION, VALUE OF PRODUCTION,  
PRODUCTION COSTS, AND NET RETURNS: FUTURE CONDITIONS WITH PROJECT  
(Based on projected prices)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Soil:	Land use and crop	2	Production		Value of production:	Cost of production	Net			
Unit:	distribution	Acres	Unit	Per Acre	Total	Per Unit:	Total	Per Acre	Total	Return
All:	Open land	871								
:	Crops	784								
:	Cotton	341	Lbs. Lint	421	143,685	.25	35,921	4	38,573	5,495
:	Cottonseed	(341)	Ton	3792	129,31	63.00	8,147	-	-	-
:	Corn	126	Bu.	35	4,402	1.45	6,382	29.01	3,655	2,727
:	Beans	191	Bu.	22	4,177	2.30	9,607	27.83	5,315	4,292
:	Oats (Grain)	17	Bu.	36	612	.90	551	21.55	366	185
:	Oats (Sup. Past.)	(17)	Lbs. Beef	125	2,125	.2005	426	12.88	219	207
:	Grain Sorghum	8	Bu.	19	152	1.53	233	18.26	146	87
:	Perm. Pasture	25	Lbs. Beef	340	8,500	.2005	1,704	50.46	1,261	443
:	Idle	76								
:	Other	87								
:	1/	871								
:	TOTAL	871					62,971		49,535	13,436

- 1/ Farmsteads, farm roads, waste and non-agricultural
- 2/ Parenthetical amounts are duplicated acreages
- 3/ Calculated from columns 3 and 6 rounded to nearest unit
- 4/ Calculated from columns 3 and 10 rounded to nearest cent
- 5/ Total area Zone B reduced by 32 acres watered and 435 acres woodland not anticipated to be cleared



Basin: Big Creek  
Project: Crooked Creek  
State: Arkansas

TABLE V  
PROJECT AREA SUMMARY BY SOIL MAPPING UNITS

(1) Soil Unit	(2) Acres	(3) Future without project (Production in dollars)	(4) Cost	(5) Net	(6) Future with project (Production in dollars)	(7) Cost	(8) Net	(9) Difference in Net Production
		Gross		ZONE A - (not subject to flooding)	Gross			
7	6,314	472,426	391,076	81,350	706,318	581,243	125,075	43,725
8	4,987	102,624	89,437	14,239 1/2	491,056	405,297	85,759	71,520 1/2
9	10,453	542,852	453,566	89,286	958,982	787,240	171,742	82,456
10	3,578	72,763	62,596	10,167	304,274	253,252	51,022	40,855
Subtotal	25,332 2/3	1,190,665	996,675	195,042	2,460,630	2,027,032	433,598	238,556
				ZONE B - (subject to flooding)				
8	657	11,768	9,307	2,487 1/2	46,334	36,028	10,306	7,819 1/2
9S	214	16,637	13,720	2,917	16,637	13,507	3,130	213
Subtotal	871 3/4	28,405	23,027	5,404	62,971	49,535	13,436	8,032
TOTAL	26,203	1,219,070	1,019,702	200,446	2,523,601	2,076,567	447,034	246,588

- 1/ Adjusted to eliminate negative net return.  
 2/ Zone A reduced by 2,027 acres dedicated woodland, 103 acres urban, 9,675 acres woodland not to be cleared, and 9,700 acres lands already drained or not requiring drainage.  
 3/ Zone B reduced by 32 acres watered, and 435 acres woodland not to be cleared.



Basin: Big Creek  
 Project: Crooked Creek  
 State: Arkansas

TABLE VI  
 LAND CONVERSIONS WITH PROJECT

(1)	(2)	(3)	(4)	(5)
Type of Conversion 1/	Total Amount	Cost of Clearing	Cost of Smoothing	Total Cost
	Acres	Dollars	Dollars	Dollars
Per Acre	xx			
W to GC	xx	60	10	xx
W to IC	xx	60	10	xx
W to P	xx	60	xx	xx
P to GC	xx	xx	-	xx
P to IC	xx	xx	-	xx
GC to IC	xx	xx	xx	xx
GC to P	xx	xx	xx	xx
Project				
W to GC	9,085	545,100	90,850	635,950
W to IC	142	8,520	1,420	9,940
W to P	280	16,800	xx	16,800
P to GC	210	xx	-	-
P to IC	-	xx	-	-
GC to IC	-	xx	xx	-
GC to P	-	xx	xx	-
Total project	xx	570,420	92,270	662,690
Annual amortized value 2/	xx	xx	xx	36,302
Total annual cost of conversions	xx	xx	xx	36,302

1/ W-woodland; GC- general dry-farmed crops; IC- irrigated crops; (rice); P- pasture.

2/ Amortized over 50 years at 5 percent

Basin: Big Creek  
Project: Crooked Creek  
State: Arkansas

TABLE VII  
ANALYSIS OF FARM DRAINAGE SYSTEM COSTS

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Zone	Soil mapping unit and land use	Area	Total Cost	Annual Equivalent Inst. Cost	Annual Maint. Cost	Total Annual Cost
A	7 - General Crops	5,398	103,998	13,468	12,000	25,468
	7 - Pasture	285	4,380	567	168	735
	8 - General Crops	4,040	77,835	10,080	8,981	19,061
	8 - Rice	224	1,933	250	74	324
	8 - Pasture	224	3,443	446	132	578
	9 - General Crops	8,938	118,867	15,393	13,715	29,108
	9 - Pasture	470	3,824	495	88	583
	10 - General Crops	3,059	40,682	5,268	4,694	9,962
	10 - Pasture	161	1,338	173	51	224
	Subtotal	22,799	356,300	46,140	39,903	86,043
B	8 - General Crops	409	7,879	1,020	909	1,929
	Subtotal	409	7,879	1,020	909	1,929
	TOTAL	23,208	364,179	47,160	40,812	87,972

- 1/ Includes engineering and contingency
- 2/ Amortized at 5 percent over 10 years
- 3/ Does not include 10 percent "other" land.

Basin: Big Creek  
 Project: Crooked Creek  
 State: Arkansas

TABLE VIII  
 ANALYSIS OF GROUP DRAINAGE NEEDS AND COSTS

Item	Unit	Amount	Unit Cost	Total Cost
			Dollars	Dollars
Excavation )	Cubic Yard	1,309,444	0.18	235,700
Spreading Spoil ) 1/				
Clearing right-of-way)				
Right-of-way easements	Acres	226	15.00	3,390
Crossings	Each	59	500.00	29,500
Swinging water gaps	Each	75	50.00	3,750
Pipe drop structures	Each	75	200.00	15,000
Flap gates	Each	10	100.00	1,000
Vegetative plantings	Acres	113	8.00	904
Total Construction Cost	xx	xx	xx	289,244
Engineering cost	xx	xx	xx	28,924
Contingencies and legal	xx	xx	xx	28,924

Total installation cost	347,092
Annual equivalent - installation cost (amortized for 20 years at $3\frac{1}{2}$ percent)	24,421
Annual maintenance cost	14,462
Annual loss of production - right-of-way 2/	1,086
Total annual cost of required group facilities	39,969

1/ These items included in excavation costs under normal contract procedures.

2/ Annual loss of production - right-of-way. 113 acres @9.61 per acre.



Basin:	<u>Big Creek</u>
Project:	<u>Crooked Creek</u>
State:	<u>Arkansas</u>

TABLE IX  
SUMMARY OF ANNUAL NET PRODUCTION RETURNS  
AND ASSOCIATED COSTS

(1) Item		(2) Total	(3) Discounted Amount
		Dollars	Dollars
1.	Net return with project	447,034	xx
2.	Net return without project	200,446	xx
3.	Gross benefit to project	246,588	136,353 2/
4.	Farm drainage cost	xx	xx 2/
	a. Installation cost	47,160	xx
	b. Maintenance cost	40,812	xx
	c. Total	87,972	48,645
5.	Group drainage cost	xx	xx 3/
	a. Installation cost	24,421	xx
	b. Maintenance cost 1/	15,548	xx
	c. Total	39,969	29,974
6.	Conversion cost	xx	xx 2/
	a. Installation cost Total	36,302	20,074

- 1/ Includes loss of production, right-of-way
- 2/ Discounted at 5 percent to account for estimated 25 year lag to full installation, maintenance, and benefit accrual.
- 3/ Discounted at  $3\frac{1}{2}$  percent to account for estimated 15 year lag to full installation, maintenance, and benefit accrual.







